

TEXTILE CRAFT

Textbook for Class XI

Paper III

PURNIMA VARMA

Project Coordinator

PINKI KHANNA



राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

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FOREWORD

Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) has taken up an important and innovative project of development of curricula and instructional materials for vocational courses on the advice of the Joint Council of Vocational Education. It proposes to develop/review competency-based curricula and bring out textbooks, practical manuals, audio and video materials, etc. for every course in existence or proposed to be introduced in the higher secondary vocational education system.

The present manual shows the commendable work done by the Institute in meeting the requirement of instructional materials for students and teachers. Developed through a comprehensive mechanism, the manual is the product of significant contributions made by several experts and others. This has been acknowledged in detail elsewhere in this book. All communications and observations regarding this project should be sent to the Joint Director, PSSCIVE, Bhopal.

A. K. SHARMA

Director

National Council of Educational
Research and Training

New Delhi

PREFACE

The National Policy on Education (1986) envisages that the introduction of a systematic, well-planned and rigorously implemented programmes of vocational education is crucial to the proposed educational reorganisation. In support of this, a variety of programmes/courses have been introduced under the Centrally Sponsored Schemes at the lower secondary, higher secondary and college levels. The programme at the +2 stage is also in the final stages of completion.

The paucity of appropriate instructional materials (textbooks and practical manuals) is one of the major constraints in the implementation of the programme and a source of great hardship to the students offering vocational courses at the higher secondary stage. To supply these materials, several efforts have been made in the past by the erstwhile Department of Vocationalisation of Education, NCERT, New Delhi and by the state governments. A review of the efforts by PSSCIVE revealed that there was a large gap between the supply of relevant books for the diverse number of vocational courses and the actual requirements.

To bridge this gap, PSSCIVE has taken up a project of developing and publishing a variety of instructional resource materials. The work of this project is being implemented through the mechanism of working groups constituted for each different course. It includes (i) review of existing curricula and instructional materials, (ii) adoption or adaptation of existing books, and (iii) writing of fresh books.

The present book entitled *Textile Craft* is based on the competency-based curriculum developed by PSSCIVE and fulfils 80 to 90 per cent requirement of any particular state syllabus. The manual has been written by outside authors who are also members of the working group. The book has been reviewed by all the members of the working group.

I am grateful to the authors for the development of this manual and to the members of the Working Group for their candid suggestions during its development and review. Their names are given elsewhere.

I place on record my appreciation of the untiring efforts put in by Dr. Pinki Khanna, Project Coordinator in planning and organising several meetings which led to the final form of this title.

Suggestions and observations from readers would be appreciated as it would help us in bringing out a revised and improved version of this book.

Bhopal

ARUN K. MISHRA

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CHAPTER 1.

Origin and History of Traditional Art and Crafts of India

From time immemorial, arts and crafts have been a basic activity of the human society and they have formed an inseparable part of human life. They have provided a greater bond in human relationships than language and brought people closer cutting across the barriers of language, caste, creed and religion.

If we trace the growth and evolution of arts and crafts of a country from the beginning, we will find it linked closely to the march of civilization of that country. Indeed by studying the history of arts and crafts, we can learn a great deal about the history of the country — when it was independent, when it had come under the influence of foreign invaders, when it was exporting its ideas to other countries, its trade, the rise and fall of its wealth, the periods of glory and decadence, and a lot more.

From the beginning of civilization, right from the stone age, we can find vivid examples of man's strong urge to express his creative and aesthetic instincts in visual form. To satisfy his inner creativity, man had always resorted to painting and drawing. We find

evidence of this in the caves inhabited by man even during the stone age. His early decorations were confined to his living place and reflected nature since his life was most influenced by it. The earlier drawing showed scenes of hunting, weapons, birds, and animals, etc. Later they started depicting various gods, rites and rituals like sacrifices, etc., showing man's innermost fears and hopes. Several drawings like man's victory over fierce animals showed his courage and self confidence. It is believed that the early man used to plan out ways of hunting animals stronger than himself by sketching these scenes and thus gaining self-confidence.

Unfortunately in the Indian subcontinent we have not found any relics of arts or crafts dating from the pre-historic times. The earliest of such relics are found from the diggings in Harappa, Mohenjodaro and Lothal. Right from those times an emphasis on form can be detected and it can be traced in all traditional arts and crafts through the centuries up to modern times. Indian design and craftsmanship have been greatly affected by aesthetic, philosophical and social aspects of the traditional

age and provide a great source of information about those times. The Vedic Age ended around 6th century BC and during these years we find a great intermixing of the Aryans, who came from outside and the local people and a new culture began to emerge.

Following arts and crafts were common during the Vedic Age.

Textiles

We find reference to weaving of cloth in a hymn of Rigveda where Agni says, "Oh, I know not either warp or wool, I know not the web of thy weave." *Manu Samhita* refers to crafts of weaving and dyeing. While *Ramayana* refers to colourful silken clothes, furs, and woolen garments as wedding gifts for Sita, *Mahabharata* refers to woollen shawl, furs and fine muslins as gifts to Yudhishtara from all over India on his becoming the king. Cloth laced with golden thread, also known as 'zari work' was also used in the Vedic Age.

Pottery

Pottery continued to be much in use and references are made to grey painted pottery as well as black and red pottery, the latter implying that baked clay was used.

Stonework

Not much evidence of sculpture or stonework is found in the Vedic Age.

Metalwork

While gold, copper and bronze continued to be used in ornamentation, sculpture, utilitarian items, etc. the metal workers of the Vedic Age had a new and strong metal to work with — iron.

Tools and weapons of iron began to be made. Hollow and solid casting of metals was known and *Shilpa Shashtra* contains an elaborate treatise on the casting of bronze. Tempering of iron to make steel was also known to the Vedic people.

Woodwork

Wood was extensively used for building, furniture and many other items, but no actual remains are existing. However Vedic literature is full of reference to carpenters and things made of wood like beds, vessels, chariots, etc.

Jewellery

Rigveda refers to fashionable ornaments of many types made of different substances including metals, which now included silver, ivory, beads and even glass. Jewellery was embossed and chased. Gold and silver plating was known. Making jewellery from ivory was considered one of the noblest crafts. It is said that King Solomon imported ivory from India in 1,000 BC.

Leather

Leather continued to be used through the Vedic Age. It was used as clothing and making boots, sheaths, drums, etc. Tanning had become quite developed by now.

Fine Arts

Fine arts like painting, dance, drama and music had come in vogue by the Vedic Age. Painting of the floors which has survived up to the modern age in the form of 'alpana' and 'mandana' has been described in *Ramayana* at the time of Sita's marriage. *Chitrakshana*

is the earliest treatise on painting. Music perhaps started as a vehicle for devotion, since we find Rigveda giving hymns to be sung at 'yagnas'. Gods and goddesses were supposed to be adept at playing musical instruments e.g. Saraswati and Narad always had a 'veena'. Krishna could entice 'gopikas' with his flute.

600 BC to 200 BC

The Vedic Age seems to have come to an end with the rise of two new religions — Buddhism and Jainism, propagated by Lord Buddha (Fig 1.3) and Lord Mahavira (Fig 1.4), both harping on the futility of Vedic rites and rituals and on the importance of leading truthful and moral lives with 'Ahimsa' as the mainstay.



Fig.1.3 Mahatma Buddha



Fig.1.4 Mahavira Swami

The lives of the people also underwent a change during this period. Agriculture became widespread and once again cities were formed. This period also saw the rise of first Indian empire — the Maurya Empire. Chandragupta Maurya and Ashoka were two great emperors who ruled during this period. Invasion by Alexander also took place during this period and a great deal of foreign influence poured in as the northern states were ruled by Greek governors. Chandragupta was himself married to Helen, a Greek woman. Needless to say, all this influenced the arts and crafts in India in a big way.

Textile

Megasthenes, the Greek envoy in Chandragupta Maurya's court, wrote, "The people belonging to rich and ruling classes wore dresses worked in gold, and flowered robes of fine muslin

adorned with precious stones." It is said that when Buddha died, his body was wrapped in a cloth that radiated dazzling lights of yellow, red and blue colours. Cotton, wool and other materials continued to be used through his period and because of the rise in wealth of the country, they must have become finer and better. From sculptures and writings we can gather that it was a fashionable society and finest clothes were worn to indicate status and attract attention. Skins, furs and woollen clothes, were imported from other countries.

Sculpture

Sculpture came into its own during the Maurya period. The Ashoka pillar at Sarnath (Fig 1.5) and Stupa of Sanchi (Fig 1.6) are examples of the magnificent sculpture of that period. The Sarnath pillar made of sandstone has four lions carved on the top, which were adopted as India's National Emblem after Independence. Exquisite figures of animals, birds, trees, lotus, lily, etc. were carved on monolithic pillars and Ashoka's edicts were engraved on them. Technique of polishing of stone to a lustrous finish was used.

Woodwork

Megasthenes also described the palaces of Chandragupta Maurya and Ashoka, said to have been made of magnificently carved wood. References are made of carpenters in Jatak tales. Boats made during those times also had wood carvings.

Metalwork

Brass continued to be used extensively

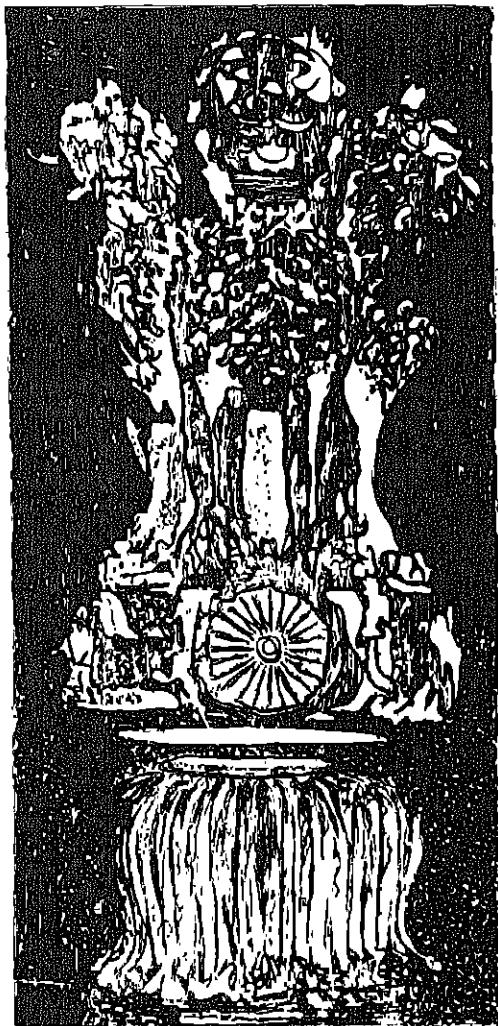


Fig. 1.5 Ashoka pillar

through this period but an alloy of five metals — copper, zinc, gold, silver and lead known as 'panchdhatu' began to be used. By now iron was being used extensively.

Jewellery

With the wealth of the nation increas-

ing. Jewellery became very popular. Gold and other metals were used. Articles were made artistically with lovely ornamental motifs. Strings of bead necklaces and hip girdles were used

appearance. Natyashastra written around 200 BC by Bharat is the earliest known treatise on dance, theatre and music. It classified musical instruments in different categories and con-

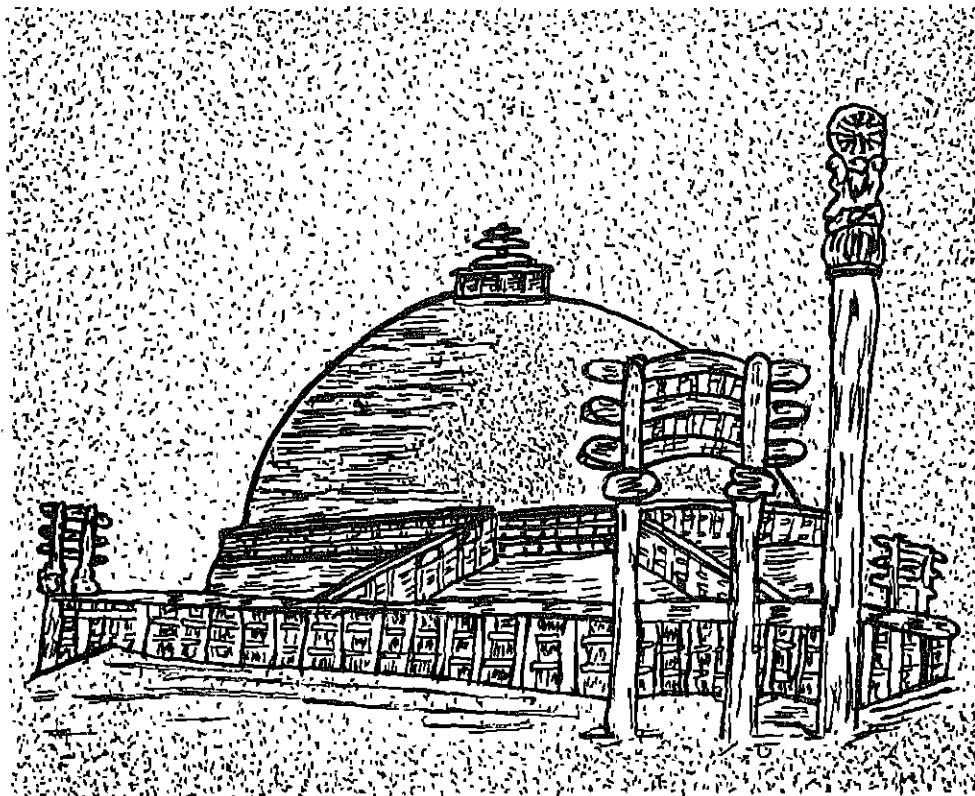


Fig. 1.6 Sanchi Stupa

with oval shaped plaques and decorative clasps. Rounded armlets were designed with geometrical patterns.

Fine Arts

Fine arts flourished due to economic prosperity of the period. Dance, drama and music were popular. Dancers performed regularly in courts. Puppetry, a new form of entertainment made its

tained details of instruments like the drum and the veena. The music terminology used is still followed to this day.

200 BC to AD 1000

With the decline of the Mauryan Empire, many small states and kingdoms spread across the Indian subcontinent. Finding lack of a strong kingdom, invaders from the North came in waves

and established their kingdoms. The invaders were Bactrian Greeks, Parathons, the Shakas and the Kushans. The Kushans who came around AD 100 spread up to the Western Gangetic Plains. However, all the invaders settled here and were absorbed into the great Indian culture just as rivers are absorbed in an ocean. These people first accepted Buddhism as their religion and then it slowly became a part of Hindu culture. Needless to say they brought their own brand of culture into India which synthesized with the local culture to emerge as a new culture. Thus right from the beginning of the first millennium India had a glowing tradition of 'unity in diversity'. Trade became strong with Greece, Iran, western and central Asia.

Meanwhile South India too was getting prosperous mainly because of trade with the Romans who were at the peak of prosperity at that time. Roman ships came and took back all sorts of items like spices, precious stones, textiles, perfumes and luxury goods. Traders here were paid in gold which made them wealthy, the wealth then filtering down to the craftsmen.

Around AD 300 rose another great empire which dominated India. This was the Gupta Empire, ruled successively by Chandragupta I, Samudragupta and Chandragupta II or better known as Vikramaditya. Vikramaditya encouraged religion, arts and literature. From his time up to AD 8th century can be described as the Classical Age since culture in all its forms flourished during this period. Notable achievements in science, astronomy, mathematics and technology were made. The

only flaw in an otherwise perfect society was the rigid caste system with its curse of untouchability where certain people lived in subhuman conditions. We learn a lot about this period from the writings of two Chinese travellers—Fa Hien (around AD 400) and Huen Tsang (around AD 700). The latter visited India at the time of Harshvardhana, another great Indian king of North India.

Since arts and crafts are a barometer of the prosperity — both monetary and cultural of the society, it is obvious that there must have been a great rise in the quality of arts and crafts of the period.

Textiles

With the export of Indian muslin and silk to Rome, Egypt and Arabia, the quality of Indian textiles improved considerably. Several types of silk, like plain white silk, Chinese silk, mulberry silk and washed silk were made. "Patola" of Gujarat, which is still popular was made in that period. Several varieties of woollen cloth and mixed fabric were used. Woollen shawls of Kashmir were in great demand and so were garments made of fur. Cotton of course continued to be used.

We learn about the textiles of that period from books like Amarkosa and Brihat Kalpa Sutra. These books tell a great deal about the classes of textiles and manufacturing processes used in making cloth. Writers like Kalidasa, Banbhatta, Fa Hien and Huen Tsang also describe the textiles of those times. However, we gather detailed information about the costumes and textiles of that age from the paintings of Ajanta.

Here we see that stripes, ladders and checks were most commonly used patterns. We also realize that a vast variety of costumes were worn by different types of people and foreign influence in dresses was very significant.

Sculpture

Buddhism and Jainism continued to spread across the subcontinent and as

patiently sculpturing single rocks. These caves are found at Ajanta, Ellora, and Elephanta. Around 200 BC many artists from West Asia came and settled down in North India, bringing with them the Graeco-Roman influence in sculpture. The art that developed as a result is known as Gandhara school. Another indigenous form of sculpture that grew at that time was the Mathura

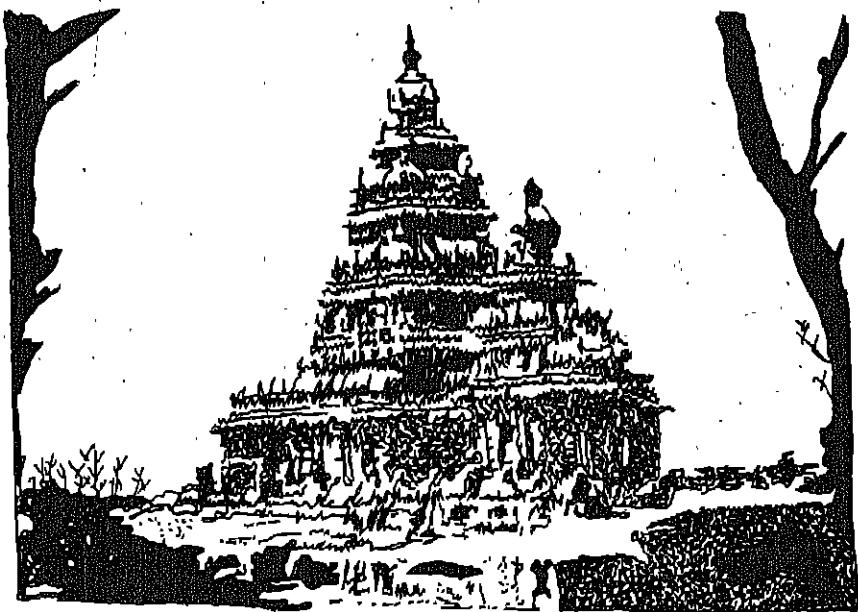


Fig. 1.7 Shore Temple, Mamallapuram

It encouraged image worship, monolith statues of Buddha and Mahavira were installed in many places. Cave architecture and rock sculpture, most of them depicting Buddha and Buddhism, could be called a great achievement of this period during which more than a thousand caves were dug out of solid hills and giant statues were made by

school. Both schools however drew inspiration from the life of Buddha, Bodhisatvas and the Jatak tales.

Hinduism too grew during this period and temples with magnificent architecture were built during the reign of the Guptas in the North and the Chalukyas, the Rashtrakutas and the Pallavas in the South. The "Mandapas"

and the "Rathas" of Mamallapuram and also its Shore Temple (Fig. 1.7) are magnificent specimens of the architecture of the "Pallavas". The capital of the Pallavas, Kanchipuram also has many temples. The Kailashnath Temple has Shiva in the famous

Nataraja form (Fig. 1.8). The Cholas too built magnificent temples at their capital Thanjavur. The bronze statue of the dancing Shiva in different poses known as Nataraja (Fig. 1.8) is also an example of the superb sculpture of the Cholas. Pandya rulers built temples in



Fig. 1.8 Nataraja

Kanchi and Madurai. Other great temples built during that classic age were the Sun Temple at Konark (Fig 1.9), the temples at Khajuraho built by the Chandela rulers, the Lingaraja Temple at Bhubaneshwar and Dilwara Jain temples at Mount Abu built by Solanki rulers of Gujarat. Dilwara temples were made of white marble having intricate carvings.

Painting

The frescos at Ajanta are breathtaking in their splendour and beauty (Figs. 1.10 & 1.11). The paint used still seems fresh and maintains its original hues probably because sunlight does not enter the caves. The various scenes depict minute details of the costumes worn by people of those times. Floor paintings were very popular during the Cholas rule.

Metalwork

Several advances were made in all the metals used during those times and many metal alloys were made. The iron pillar near Kutub Minar at Delhi built during this period has not rusted even after a thousand years.

Woodwork

Wood was widely used in building activity. Temples described earlier in this chapter had huge chariots built of carved teakwood.

Fine Arts

Music, dance and theatre made immense progress during this period. Vikramaditya encouraged fine arts and had many artists in his court like Kalidasa who wrote many plays.

Samudragupta himself used to play the "Veena" and this was inscribed on the coins of his period (Fig 1.12). Dance was very popular as could be seen by the depiction of dancing figures playing all sorts of musical instruments in all the temples built during this period.

Puppetry was also a popular folk art.

AD 1000 to AD 1800

As the stories about India's riches spread far and wide, Islamic marauders of Central Asia set their evil eyes upon the golden land. Thus around AD 1000 started a series of raids by Islamic invaders many of whom plundered and looted the country and took away the loot to their lands while some of them stayed back and ruled vast portions of the subcontinent. These invaders found it easy because of the weakening of almost all the Indian kingdoms. The first invader was Mahmud of Ghazni who raided India seventeen times in only twenty five years and also occupied Punjab. He mainly plundered the temples because of the gold and riches in them, Somnath Temple in Gujarat being one such temple. Unfortunately he destroyed a lot of historical evidence, including literature which could have given us a better idea of those times.

The next prominent invader was Mohammed Ghauri towards the end of the 12th century. He conquered Delhi and settled down to rule here but was killed in 1206. After his death Delhi was ruled for about a hundred years by the slave dynasty having rulers known as Sultans. These were Qutab-

ud-din Aibak, Iltumish, Razia Sultan and Balban. The dynasties that succeeded the slave dynasty until the final arrival of the Mughals were the Khilji, Mohammed Bin Tughlaq and Ibrahim Lodi were the notable rulers.

to oust Ibrahim Lodi. Babar brought a new style of warfare to India- the use of artillery. But after defeating Lodi he did not return to Kabul but stayed on. Unfortunately before he could consolidate his power, he died in 1530 and

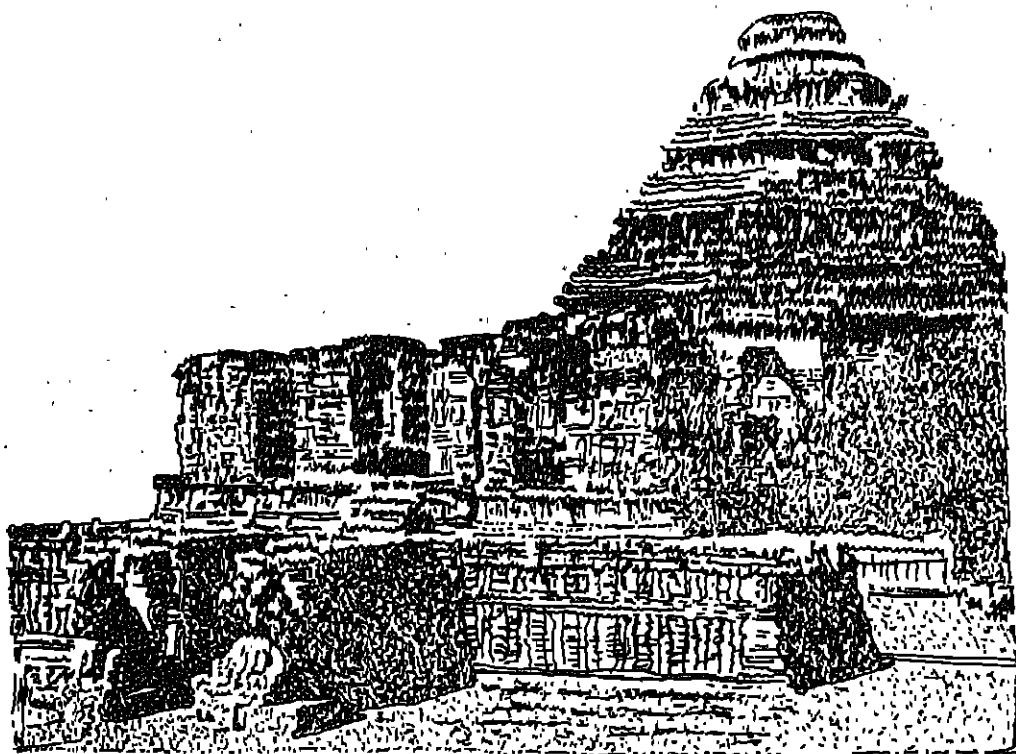


Fig. 1.9 Sun Temple, Konark

In 1398, between the Tughlaq and Lodi Empires, India was raided by Timurlang, a fierce ruler of Central Asia and Iran and a descendant of Chenghis Khan, who mercilessly killed the people and looted the country. In 1526, Babar a descendant of Timurlang and the ruler of Kabul, was invited to India by Rana Sanga and several Afghan nobles

was succeeded by his son Humayun. Humayun, however, could not preserve the precious gift handed down by his father and lost it to an Afghan noble Shershah. Shershah was an able ruler but could only rule India for five years before he died. After his death, Humayun recaptured Delhi and Agra but he too died within a year, leaving



Fig.1.10 Fresco at Ajanta

behind his thirteen year old son Akbar to rule India.

Akbar was perhaps the greatest ruler of India since Ashoka. He not only conquered almost the whole of India but also ruled India in a methodical way. Under his benevolent rule, India once again entered the age of magnificence.

Akbar was succeeded by Jahangir, Shah Jahan and Aurangzeb. From the

time of Aurangzeb onwards, the Mughal Empire started to decline mainly because of continuous attacks by the Marathas in the South, and later on from Sikhs in Punjab. By 1739, the Mughal Empire had become so weak that an invader, Nadir Shah could come and plunder Delhi. After him came Ahmed Shah Abdali who drove back the Marathas to the South. Delhi was ruled by Bahadur Shah Zafar in

name only until 1857 after which the British took over.

While the Mughals came to India

They soon took over the rule of the area where they had settled. They were followed by other Europeans like the



Fig. 1.11 Fresco at Ajanta

from the North by land routes, another silent invasion was taking place by the sea routes in the South. This was by the European traders who came in search of spices and other goods and slowly settled down here. The first to come was Vasco-da-Gama from Portugal in 1498. The Portuguese traders came and settled down around Goa, buying land and building factories.

English, French and the Dutch. Along with them came the missionaries who wanted to convert the people here into Christians.

Looking back into the era of AD 1,000 to 1800 AD, we find that though India was constantly raided and its wealth was plundered yet the arts and crafts in the sub continent continued to flourish. They reached a peak dur-



Fig. 1.12 An enlarged picture of a Gupta coin showing Samudragupta playing on a veena

ing the period from Akbar to Shah Jahan. The decline set in during the reign of Aurangzeb who was not interested in any sort of art and this continued into the 18th, 19th and 20th century till the Independence of India.

Textiles

All the textiles of the previous centuries like cotton, silk and muslin continued to be manufactured though in better ways; and the demand for their export grew as traders now flocked from European countries too. Foreign cloth too was imported into India and the style of their manufacturing was copied here. Daulatabad in Deccan, Bihar and Bengal made such fine muslin that it was transparent. Amir Khusro (14th century) talks of muslin. "a hundred yards of which could pass through the

eye of a needle". The story is told about Jahangir who chided his daughter for roaming around naked in her palace while she defended herself by claiming to have worn seven layers of 'mul-mul'. Special names were given to these exotic textiles like "Abrawan" (running water) and "Shabnam" (dew). During the reign of Mohammed bin-Tughlaq the rôle of the designer too became important. They were known as Naqshband. There was an exchange of designers between India and Iran, Turkey, etc. They came to Kashmir and other centres of weaving and made intricate designs in silk with beautiful colours. The desert states of Sind, Rajasthan and Gujarat began using vegetable and plant dyes, converting the dull, arid regions into a land of vibrant colours.

Besides about 200 varieties of indigenous cloth that are supposed to have existed in India, cloth was also imported from China and Europe and consisted mainly of asbestos silk, brocade, satin and velvet. All the skilled arts like embroidery, painting of cloth, tie and dye and others flourished under the patronage of kings and nobles.

Sculpture and Architecture

While making of sculptures and temples stopped in the North during the early parts of this period due to incessant raids, it continued in the South under the patronage of others.

The coming of the Turks however brought an entirely new trend in architecture which synthesized with the indigenous form to become truly a great architecture. The concept of the true

arch and the dome was brought by the Sultans from Middle East. Amongst the first builders was Qutb-ud-din Aibak who started building the Qutb Minar which was later completed by Iltumish (Fig. 1.13) But architecture was developed into a fine art by the Mughal rulers. Babar specially brought architects from Albania to build buildings and mosques. Humayun did not rule long enough but his tomb built by his wife is a fine example of Iranian architecture. Akbar was greatly interested in Hindu-Muslim unity and this is reflected in the scores of memorable buildings he made. Red stone and marble started being used in his lifetime. The forts of Agra and Lahore used ancient Indian styles a great deal. His capital at Fatehpur Sikri can be called one of the most magnificent capitals of those times found anywhere in the world. His successor Jahangir too continued in the great architectural traditions of his father, but the prince of the builders was Shah Jahan. The Taj Mahal (Fig 1.14), at Agra and the Red Fort and Jama Masjid at Delhi are few of his most magnificent creations amongst numerous others. He made liberal use of marble and his buildings had delicate decorative designs and coloured inlay work, with arches and minarets in perfect harmony. However, Aurangzeb did not show much interest in architecture and building activity declined rapidly till the British came.

In the south, Krishnadev Rai, the ruler of Vijay Nagar from 1509 to 1530 also built some magnificent buildings. In Rajasthan a unique city called Jaipur was built in magnificent Rajput style of architecture.



Fig. 1.13 Qutb Minar and the ruins of a mosque, Delhi

Painting

The Persian style of painting came to India with the Sultans. Amir Khusro's book of poetry was illustrated in a mixture of Indian and Persian styles. Mandu and Jaunpur were centre of painting. In the South, temples at Tanjore had walls and ceiling full of beautiful illustrations. Vijay Nagar empire also had many paintings in the Cholas and Pandyas tradition. The art of painting also flourished in Bijapur, Golconda and Ahmednagar. Rajasthan too had many styles of paintings. The

palace of Amber has many paintings on its walls. The style of miniature paintings also developed in Rajasthan during the 18th century.

The Mughals of course were great connoisseurs of painting. 'Baburnama'

courage music, yet the Sufi saints lent it respectability and it entered court life. Several treatises on music were written around the 13th century, important ones being 'Geet Govind' by Jaidev and 'Sangit Ratnakar' by

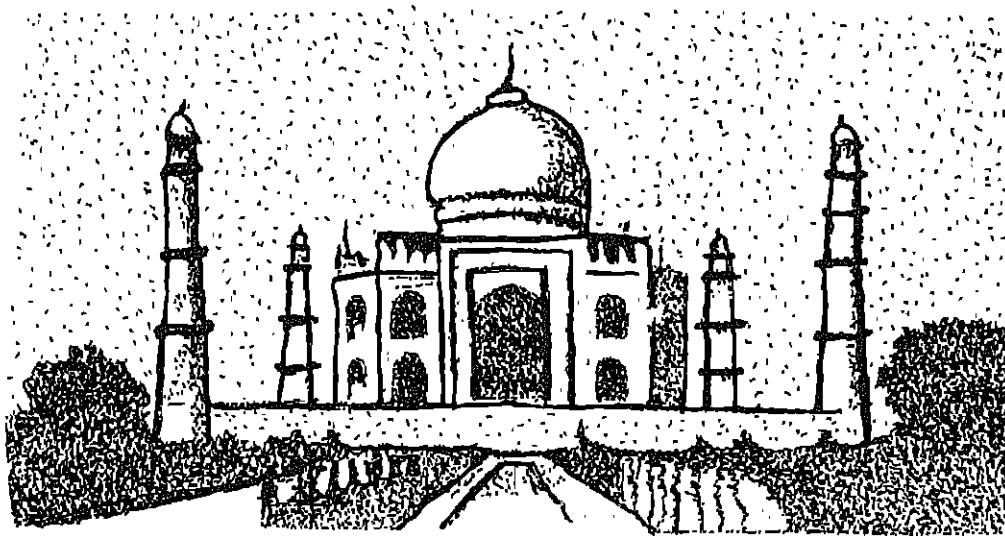


Fig.1.14 Taj Mahal, Agra

was amply illustrated. Akbar had gathered great painters in his court—not only from all over India but from far away lands. During Jahangir's time portrait and nature painting came in vogue. He too had great artists in his court. It is said that when Sir Thomas Roe presented a painting to Jahangir several reproductions of it were made on the same day and were so perfect that even Roe could not distinguish them from the original.

As with other arts, painting too declined during the reign of Aurangzeb.

Music and Fine Arts

Although Islam is not known to en-

Sharangdev, the latter describing 264 'ragas'. Amir Khusro, around 13th century, during the reign of Alauddin Khilji, was a great musician who invented not only instruments like "Tabla" and "Sitar" but also invented new forms of music like "Qawali" and "Tarana" and several new ragas.

Akbar was a great lover of music and his court was full of musicians—the most notable amongst them being Tansen, who created many new ragas. The Hindustani style of music developed during this time. Jahangir and Shah Jahan too patronised music, but Aurangzeb, being an orthodox Muslim, opposed music vehemently. The musi-

clans of the Mughal courts then migrated to different parts of the country and were given shelter by different kings and noblemen. The Maratha ruler of Tanjore—Tulaji was one such under whose patronage was the great musician Tyagaraja. The Karnataka style of music developed in the South.

Another great form of music was "Bhakti Sangit" or devotional music. Some great exponents of this form of music were Chaitanya Mahaprabhu, Sant Tukaram, Narsi Mehta, Tulsidas and Meerabai.

Metalware

There was all-around development in the usage of all the metals. The metals were used for utility as well as for decorative purposes. We find highly ornate tea kettles made of silver in Ladakh in 17th century. Moradabad became a famous centre for brassware where utensils were made along with exquisitely engraved decorative pieces.

Earthenware

Use of coloured glazed tiles used as decoration in buildings, etc., started around AD 1300. Tile art became highly refined under the Mughals and sophisticated glazing was used. Terracotta panelling was used in temples around 18th century.

Woodwork

Wood was by now being used in almost all fields of life. Wooden sculpture was used in temples. Beautiful wooden furniture with inlay work began to be made. The material used for inlay could be ivory, brass or some other wood, the base being rosewood

or ebony. Painting on wood was done chiefly in Rajasthan and painted doors were used in palaces. The Portuguese made carved furniture in Goa and exported it to Portugal. Churches too, used wooden carved panels. St. Thomas' Church in Kerala has a panel of great artistic merit where Christ is shown having the last supper.

Jewellery

All the precious metals and stones continued to be used. India had some of the biggest diamonds in the world, the Kohinoor being one of them. The famous Peacock Throne was studded with diamonds. Alas both of them were taken away by Nadirshah in the 18th century. Fabulous engraved jade pieces were made during the Mughal period. Several new experiments were made like jewellery using lac and glass.

Ivory

Ivory was extensively used in jewellery as well as for decorative items and small sculptures. The palace in Vijaynagar built in 16th century has an entire room made of ivory.

The Modern Period

The period starting from AD 1800 till the present can be called the Modern period. In India it was marked by two important events. One was the complete domination by the British of the entire subcontinent lasting from 1857 to 1947 and the industrial revolution that started in England which engulfed the whole world.

If we study the British rule we discover its good as well as bad points. Among the good points can be said that

for the first time the entire country from Afghanistan to Assam and Kashmir to Kerala was unified and had political stability. The British brought the fruits of the industrial revolution quickly to India. A network of railways was set up, providing easy and quick transport to passengers and goods. Along with this developed the postal system. Large plants for generating electricity were set up. Many industrial plants for making steel and cement were set up. Telephones became common in all big cities.

The British also provided stability to the country. Laws were made and enforced strictly. Several anti-social and superstitious activities of various religions were banned and schools and colleges and even technical institutes were set up to bring literacy to people.

Along with the good points, there were negative influences too. Arts and crafts were not encouraged and were allowed to die down so that the products of England could be brought and sold here. The famous 'mul-mul' about which Amir Khusro had said that "a thousand yards of it could be passed through the eye of a needle" became extinct and the cloth made in the mills of Manchester was brought and sold here. People developed a craze for the foreign goods and it was only the call of 'Swadeshi' by Mahatma Gandhi that halted this tendency. Mahatma Gandhi introduced the handspun khadi against the imported fabric and the lowly 'Charkha' took on the might of the British Empire. The British also drove a wedge between the Hindus and the Muslims who had lived in peaceful co-existence for centuries, complementing

and supplementing each other. This ultimately resulted in the partition of India.

Textiles

The Industrial revolution had wide and far reaching impact on every aspect of life including the arts and crafts. With mass produced items made by machines flooding the markets the importance of handicrafts decreased. New items were discovered or invented. Amongst textiles, synthetic fibres brought in a revolution in costumes. Traditional textiles too were now produced by machines and many new process of dyeing and finishing them were discovered and new chemical dyes were used.

Architecture

The British made several impressive monuments like the Victoria Memorial in Calcutta, Gateway of India in Bombay and India Gate in Delhi. Several commercial buildings like the Taj Hotel in Bombay and the Connaught Place in Delhi are fine examples of British architecture. Delhi was developed into a beautiful city:

However the coming of the 20th century brought many new materials in making buildings. Combination of steel and cement made possible buildings that rose hundreds of feet into the air. With matchbox style of buildings coming up, architecture suffered badly.

Similarly in every field we see the great impact of science and technology. New metals have been developed — like stainless steel and aluminium, new material like plastics and resins

are being used extensively. Even, traditional arts and handicrafts have used these gifts of technology to improve their work. Computers are being used today to make designs for handicrafts. However, in this age of mass production, handicrafts too are finding a niche for themselves and there is a new respect for this sort of work. Exquisite work done by hand is still getting rich remuneration. The central government as well as the various state governments are trying hard to see that the age old arts and crafts do not die out. All India Handicrafts Board is one such

organisation. All state governments have their emporiums in big cities where articles made by village artisans are sold. Several cultural centres have been established in different zones to promote local arts. Fairs are held in big cities and also in foreign countries to show the rich heritage of India. Private operators too are not far behind. Boutiques in fashionable shopping centres are coming up where ethnic dresses and articles are sold at fabulous prices. All this shows that there is still hope for the traditional arts and crafts of India.

QUESTIONS

1. Give a brief account of origin and history of traditional arts and crafts.
2. Give a brief account of evolution of textile arts and crafts through the ages.
3. Which period is known as the Vedic-Age? Compare the arts and crafts of the Vedic-Age with that of the Ancient period.
4. Give a detailed account for the origin, history and development of textiles through the ages till the modern period.
5. Write short notes on:

CHAPTER 2

Indian Traditional Textiles

Indian traditional textiles are exquisite in their beauty and rich in designs, colours and textures. There is a tremendous variety in techniques which provides distinctive styles to each and every traditional texture from different states. Each state has something special to offer, be it woven, embroidered, printed or painted textile. While Kashmir is famous for its intricate and elaborate embroidery, Punjab is famous for its 'Phulkari' work, Rajasthan is well-known for its Sanganer and Bagru prints and also for 'Bandhani' work along with Gujarat. Gujarat is also famous for the mirror studded glittering embroidery as well as the patola work. Uttar Pradesh can boast of the woven magic of Banaras brocades and the 'chikan' work of Lucknow. Bengal is well known for the 'Kantha' work and Karnataka for the 'Kasuti'. The south has the rich tradition of making exquisite silks and the 'Kalmakar' work.

Thus we see that the Indian traditional textiles have an individualism belonging to their own region and craftsmen. As Smt. Kamla Dungerkerry rightly says, "the traditional textiles of India reveal the background of rich culture and give artistic shape and form to the ideas and ideals which inspire

the lives of the people"

The traditional textiles are of several types—plain woven, woven with intricate designs, embroidered and hand printed. Let us now have a more detailed study of various textiles which have formed a part of the heritage of India.

Amongst the plain woven textiles, 'tussar' silk holds an important place.

Tusser Silk

Tusser silk comes from the non-mulberry silk worm. The basic fibre is quite thick, which gives the fabric a structure different from other silks. Bhagalpur in Bihar is a major centre where tusser silk weaving has reached a highly sophisticated and aesthetic level. Shades of cream, light brown, beige, grey, camel, coffee and gold tones are used.

Tusser is known as 'Kosa' silk in Madhya Pradesh. Its colour is beige. It has a soft sheen and has a slightly rough appearance because of the thick thread. Sometimes attractive borders and all over designs are woven into it with floral and geometric patterns in rich and mellow tones combining rust, black, saffron and brown colours. These fabrics make elegant sarees.

Bhandara District of Maharashtra is also well known for tusser weaving by the 'Koshti' community said to be descendants of sage Markanda who is supposed to have woven fabric for the gods.

Kota Doria

Amongst the plain woven fabrics, Kota Doria from Kota in Rajasthan is also making a place for itself. Woven with cotton yarn, it comes in soft checks, with golden thread being sometimes used. The fabric is later dyed or printed.

Dhaka Muslin

Universally known as 'Dhaka Ki Mulmal', was rated as the finest muslin ever produced. Through this art is now extinct, the muslin kept in museums justify the saying that a yard of it could be passed through a lady's ring. A 15 yard piece of 1 yard width, made in Jehangir's time and known as 'Mulmul Khus', weighed only 900 grains (probably about 170 gms). The story goes that Jehangir once chided his daughter for roaming around in her palace without any clothes to which she replied that she was wearing five layers of 'mulmul khus'. It is said that five yards of it could be packed in a match box. For this reason, names were given to the fabrics comparing them to air or water, like Ab-i-rawan (flowing water), Baftawa (woven air) or Shabnam (dew).

Although this art is now lost, Dacca muslins are still being made with woven-in patterns known as 'Jamdan'.

Pashmina shawls are plain woven fabric made from wool obtained from 'Pashmina' goats in Kashmir, which is

known for its finest shawls in the world. The finest of them called 'Shatush' can be drawn through a ring, yet it is amazingly warm. 'Jamavars' are complex shawls, consisting of as many as fifty colours.

Patola

Patola is one of the most beautiful and wonderful contributions to the world of textiles. It is a lovely combination of tie and dye and weaving. Patola is a very laborious and intricate process in which only silk is used. Because of the high cost involved normally only wedding sarees are made with this technique in Gujarat. Patan in Gujarat, believed to be the birth place of Patola, is a major centre for patola weaving.

The technique of Patola dyeing and weaving can be traced back to AD 5th century when the Guptas ruled over our country. It is believed that by the 11th century it developed into an industry.

Patola is woven in just the plain weave. The warp and weft threads are first separately dyed by the tie and dye process. Initially they are dyed in the lightest colour and then step by step they are dyed in the darker shades. The portions to be dyed in the next darker shade are marked by the dyer. The warp threads are according to the planned design and then the weft threads are woven accordingly to produce the desired design. The designs are usually human figures, birds, flowers, elephants, plants, etc.

In Patola the design is the same on both the sides. Here the animal and bird motifs face the sides of the sari i.e. their feet point towards the centre



Fig.2.1 Patola of Patan in Ratan Chowk design

of the saree. Since the process of making a Patola is very intricate and laborious, only a few traditional designs are used. According to Mr. G.V. Patel, some of the important designs of Patan are:

1. **Ratan Chowk:** It is a design of

crossed diamonds with interspersed diamonds as well (Fig. 21).

2. **Narkunjari Bhat:** This design has figures of a dancing girl, elephant and a parrot. Often other birds, trees, etc. are also included.
3. **Pan Bhat:** It is the motif of a leaf which is said to be the leaf of the sacred Pipal tree.
4. **Chhabri Bhat:** It is a basket design made of four elephants.
5. **Wagh Kunjar Bhat:** It is a tiger-elephant design. The tiger and elephant are alternately woven.
6. **Phulwadi Bhat:** It is a floral design.
7. **Okhar Bhat:** This is the water crest design. Its real name appears to be Akhrot Bhat i.e. walnut design.
8. **Chowkhadi Bhat:** This resembles a diaper with a double outline design. Each diaper includes three flowers borne on a stem.

In Orissa, a similar technique is used for the work known as Ikat, while in Andhra Pradesh it is called Pochumpalli. The weaving here is done mostly in 'tuser' silk but cotton is also used for curtains, bedspreads, odhnis, sarees, etc. Usually the designs are in floral patterns. There are single and double Ikat work. The technique is said to have been exported to Malaya and Indonesia from where it got the name 'Ikat'. The colours that are generally used are sober and not bright. Mainly red, yellow, green, black and white colours are used and there is a softness in the colour harmonies.

Brocades

The Indian brocades are very famous and have a long tradition. Brocades of

Varanasi (Fig. 2.2a & b) are well-known for their interweaving of coloured silk and silver or gold threads to form beautiful and attractive floral patterns. They are famous by the name of 'Kinkhab'. Literally kinkhab is a cloth of gold. In the past very fine wires of gold and

silver were drawn and the whole fabric could be woven from them. Thus the effect produced was dazzling. These real gold brocades are known by the poetic name of 'Kam Khwab' that literally means a 'dream like work'.

Apart from pure gold or silver fab-

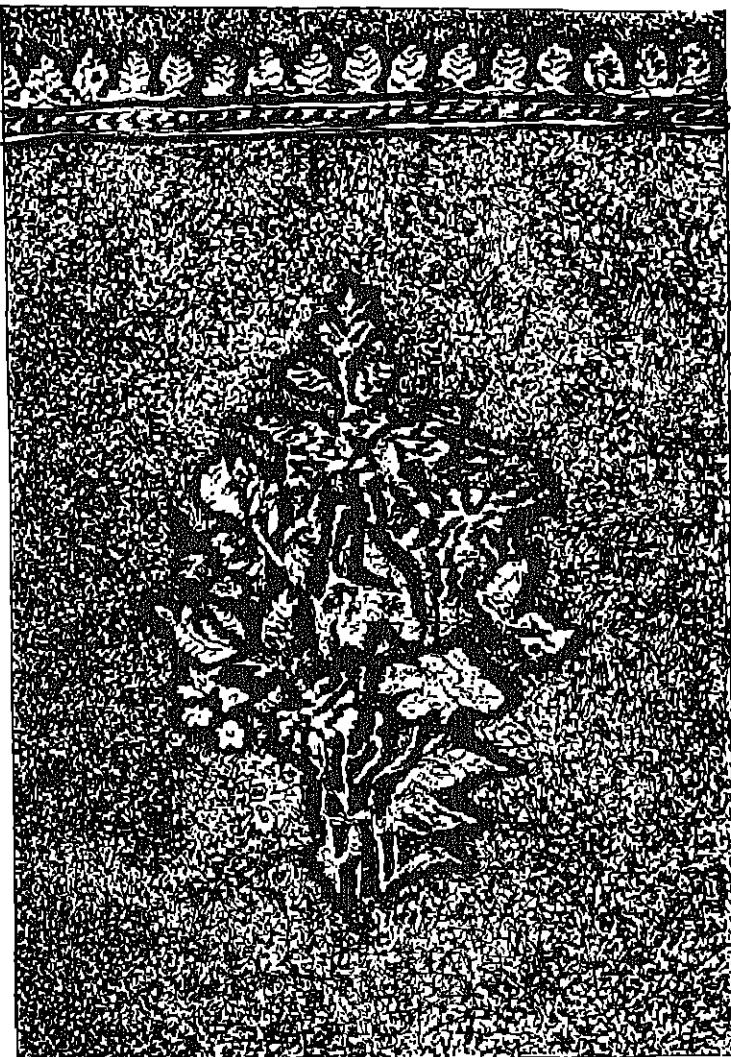


Fig. 2.2 (a) Banaras brocade, Varanasi

rics there are Kinkhabs of other types too. The other important Kinkhabs are- (1) brocades having threads of gold and silver interwoven with silk threads (Fig. 2.3). (2) Baftas or Pot thans, where weaving is mostly done in coloured silk threads and gold and silver threads are used occasionally. (3) Then there are the lightest brocades with very little metallic thread.

The brocades having threads of gold and silver interwoven with silk threads are the true Kinkhabs of India. Here the gold or the silver thread is the most important part, and coloured silk threads are interwoven at intervals to emphasize the design.



Fig 2.2 (b) Brocade saree, Varanasi

Bafta of Pot thans are brocades where the major portion of the fabric is woven in silk and gold or silver patterns are woven at regular intervals.

The lightest range of brocades are silk muslins having very little gold or silver thread. The metallic threads are used only on certain portions like palloo, etc. They are also known as Abi-rawan which literally means flowing water

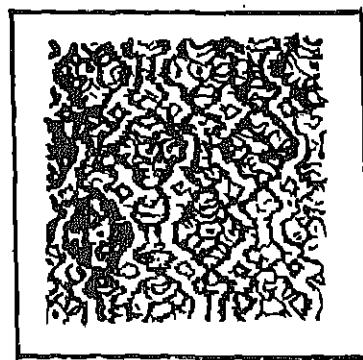


Fig 2.3 Kinkhab from Surat woven with gold and silver thread on silk

Kinkhabs are famous for their splendid and detailed patterns combining a world of flowers, birds, animals, etc. It is best explained by Enakshi Bhavnani in *Decorative 'Designs and Craftsmanship'*. These brocades known as Kinkhabs became famous throughout the world for the excellence of weave combining magic world of flowers, birds, animals, foliage and sometimes human figures that were composite and carefully combined in multiple colours to emphasize the richness of the basic material and grow from it like flowers in a "golden garden bed". These brocades have distinguished poetic names such as Chand-Tare (moon stars), Dhup Chhaon (sunshine and shade), Mazchar (ripples of water), Bulbulchesin (nightingales eyes), Morgala (Peacock's neck), Hallim Tarakshi (pigeon's eyes), etc.

Chanderi

Chanderi and Maheshwari sarees are amongst the finest textures of north-

ern India. Chanderi is a historic city in Madhya Pradesh near Gwalior which is famous for delicate, semi transparent sarees. At Maheshwar and Burhanpur sarees of similar texture are woven. Chanderi sarees are mostly cotton while the border and palloo are

woven in silk or gold threads (Fig. 2.4). The whole saree is checked with booties in the check squares or it is plait with small booties all over it. In contrast the palloo is decorated with gol threads and the borders are woven with double threads giving an effect of tw

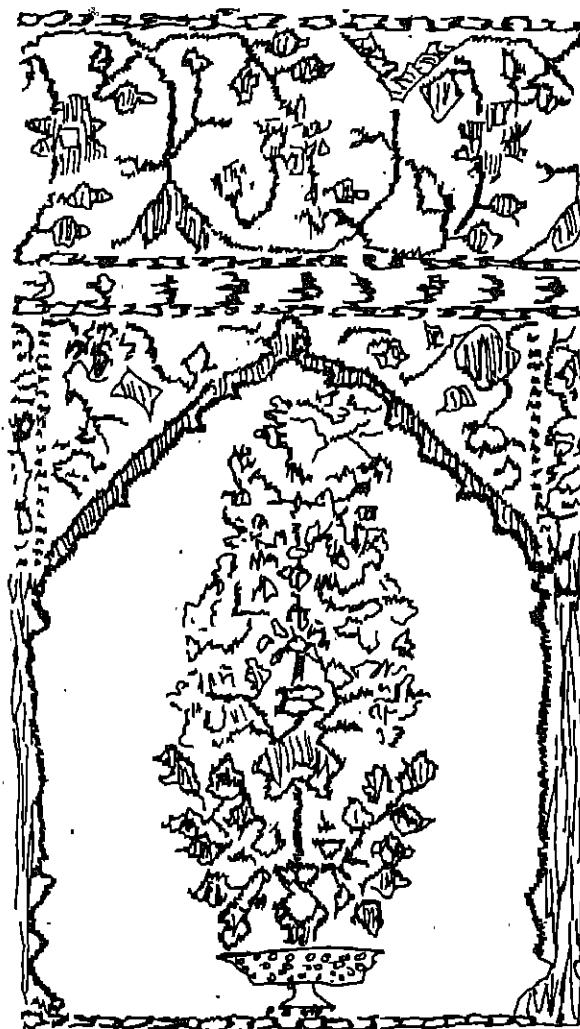


Fig 2.4 Chanderi saree

colours, one on each side. Borders, often having contrasting colours are decorated with designs in zari or metallic thread on the edges. Single thread weaving gives a delicate and transparent look. These delicate semi-transparent sarees from Chanderi and Jasmine flower weaves from Shantipur and Tenda have very fine weaves. These are normally made in light pastel shades, mostly white and cream and have beautiful floral woven patterns with matching borders and palloos.

Craftsmen have been able to produce a beautiful effect which gives the impression of a jewel on the surface of the saree with the technique of extra warp and weft. At Maheshwar, sarees of similar quality and texture are woven and are famous as Maheshwari sarees. These sarees have an unusual origin for it is said that a queen reigning over this territory designed the first saree. Maheshwari sarees are mostly in cotton and are famous for their simplicity and charm. The reversible border is a speciality of Maheshwari sarees also and is locally known as bugdi. Maheshwari sarees are usually made in bright colours.

Earlier the covering was mostly done on pit looms, but now most of the looms have been converted to the shuttle looms. In both Chanderi and Maheshwari sarees the weavers are Muslims while the Hindus indulge in trading.

Paithani

A range of very beautiful sarees come from the village Paithan or Patian appropriately called Paithani.

These sarees are magnificently fine

silks having gold patterns woven on them. The weft is interlocked with different colours on a zari warp thread. In this way very complicated patterns can be woven. The border and palloo have very eye-catching designs in bright colours like canary yellow, bright pink, moss green, etc. The most common motif is the peacock with stylised flowers, swans, parrots etc. (Fig. 2.5) The border and palloo are woven separately on



Fig. 2.5 Paithani peacock

gold tissues and then sewn on to the saree. Around the palloo brightly coloured rosettes and birds are woven. In the olden times the Paithanis were woven for the royal family.

Jamdani

Jamdani or the figured muslin is amongst the most beautiful of woven textiles. It is one of the most elaborate styles in cotton weaving. It has designs of great intricacy (Fig. 2.6).

Jamdani's technique of weaving resembles the tapestry weaving. Here, small shuttles are filled with gold, silver or coloured thread and are passed through the warp as required for the

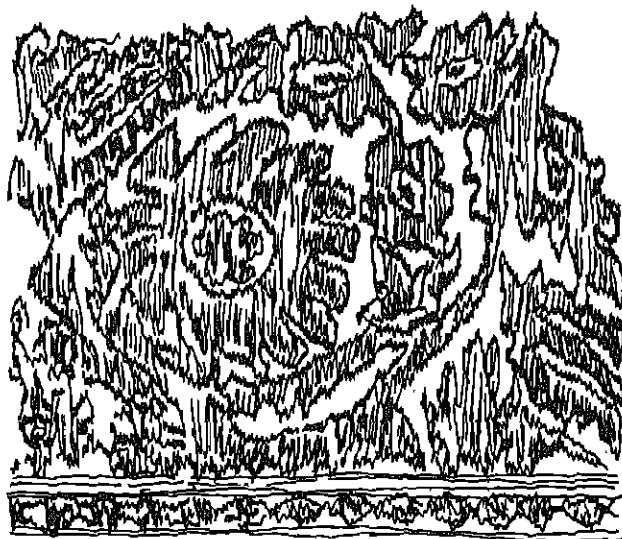


Fig. 2.6 Jamdani

basic weaving of fabric. Thus these fascinating and lovely fabrics are woven on simple primitive looms and can be called the product of the loom and shuttle.

Normally paper patterns are used and two weavers sit on the loom to simplify the process of weaving and also to save time.

A variety of designs are used in Jamdani. The designs of floral sprays which are scattered all over the surface are known as 'butidar'. Where the design of diagonal rows is used it is known as 'tircha'. It has large and bold motifs in the corners. 'Jhalar' is the design forming a regular network of floral motifs. 'Panna Hazare' is one of the most striking designs which gives the effect of thousands of scintillating jewels hence its name 'Panna Hazare' which literally means thousand emeralds. 'Phulwari' and 'Toradar' are other

floral patterns.

There is an interesting belief regarding the Jamdanis which says that in the time of Moghuls, its manufacture was not allowed unless under royal orders.

In Jamdani the fabric is generally in cottons of grey colour. The designs are done in bluish black, gold or silver and other brilliant colours.

Muga Silk

The districts of North Lakhimpur and Sibsagar in Assam produce the lustrous muga silks. They are woven from the silk of non-mulberry silk worms. Assam leads in non-mulberry silk. Muga has two main varieties, the first being 'champa adakari' and the second 'mejamkari'. They depend on the leaves on which the worms feed themselves. The silks are in natural golden yellow or creamy white having a scintillating

golden shade. They are woven for shawls and wearing apparel but due to their brilliant shade the yarn too has a great demand for ornamentation processes like embroidery. The silks are decorated with beautiful and elaborate designs, the most common being the floral, combination of Jasmine flowers, animals, mango motif, etc. The colours used such as green, saffron, red or indigo emphasize the weave and texture which lends it an intricate embroidered effect (Fig. 2.7).

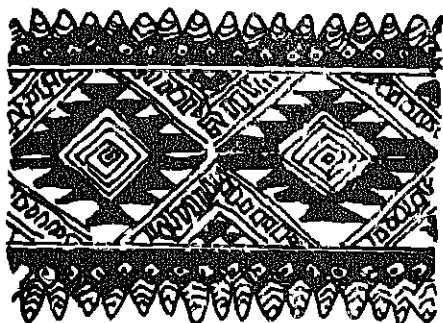


Fig. 2.7 Fabrics from Assam

Shalkuchi is the most famous centre in Assam for silk weaving.

Baluchar Buttedar

Baluchar sarees were made in the small town of Baluchar on handlooms near Murshidabad in West Bengal. These are silk sarees in which small floral sprays (Butte) were scattered all over the surface giving it the name of 'Buttedar'. The 'palloo' was very heavy with intricately woven motifs of flowers, shrubs, mango shaped paisleys, figures of women, horse riders, men smoking 'hookah', etc. (Fig. 2.8). The design shows a strong influence of Mughal art as the figures were like portraits of

emperors which later changed to European figures under the British influence. The colours generally used were white, red, green, orange or yellow against backgrounds of royal blue, purple, maroon or red. Unfortunately, this art died down in Baluchar due to lack of patronage but it has been revived in Varanasi by government efforts.

Kaseeda of Kashmir

Kaseeda is the Kashmir embroidery in which designs are made in bold colourful strokes with a dark outline. The common designs seem to be influenced by nature's bounteous gifts which it has generously bestowed on Kashmir. The most common motifs are chenar leaf, almond, cypress cones, lotus, apple, cherry blossoms, foliage and birds, etc. Normally satin stitch, loop stitch, stem stitch and darning stitch are used. Herring bone stitch is used to do the edges. "Zalakdozi", the term normally used for chain stitch done with a loop which is mostly done on many of the articles with flowing designs. "Vatachikan" also known as the button hole stitch is also used, but only for thick fillings.

Usually the craftsmen are assisted by young boys. The process of doing Kaseeda is interesting to watch. The master craftsman speaks out the type and number of stitches to be put in "from the design kept in front of him. As soon as the instructions are called out the boys swiftly start working and complete the stitches no sooner than the instructions are finished.

The harmonious colour combination of this embroidery gives a very peace-

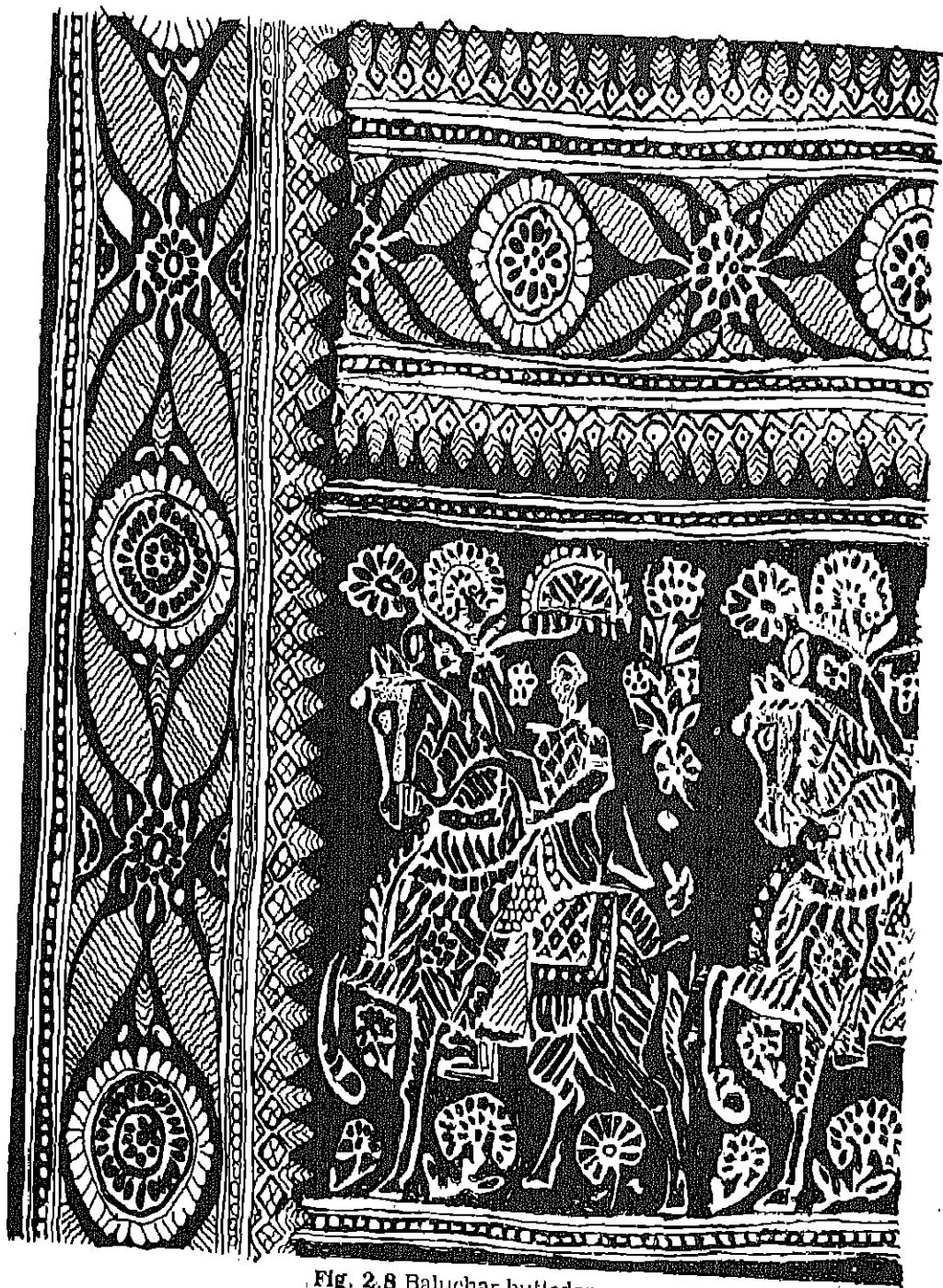


Fig. 2.8 Baluchari buttedar

ful and soothing effect. Normally the embroidery is done on silk but the same patterns are also embroidered on wool. Many articles are beautifully done in Kaseeda, the most famous being the pashmina shawls and silk sarees. Apart from these, many other articles are also done in kaseeda. Dorookha is one type of Kashmiri shawl which, as its name suggests, is made in a manner that

The elegance and charm of these Kaseeda products are the outstanding features of this embroidery (Fig. 2.9).

Chikan-kari

The simple yet elegant embroidery of Lucknow is called 'Chikan-kari', although it is also produced in Calcutta, Allahabad, Varanasi, Bhopal, etc. This industry developed in the regions wa-

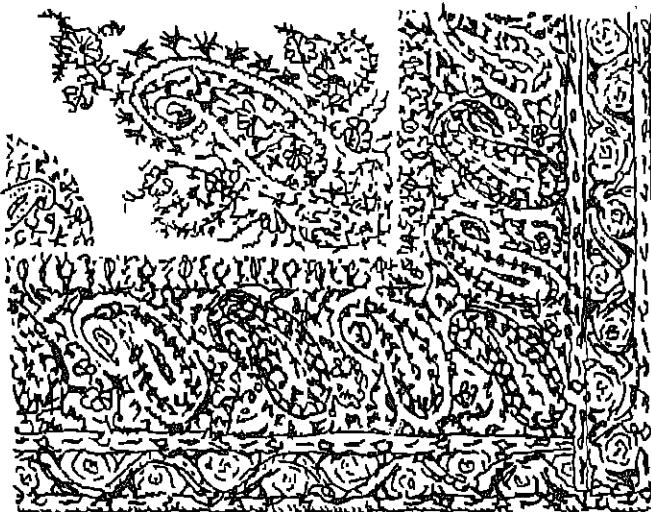


Fig. 2.9 Embroidered shawl of Kashmir

the same effect appears on both the sides. There are also 'Kani' shawls called 'Amlî' which are done in multicoloured threads having elaborate patterns with delicate fill-in stitches. There are also embroidered rugs called Namdas. They have designs similar to those of Pashmina shawl. Chain stitch is used for the base with other stitches like satin, cross stitch, etc. There is another kind of a floor covering called 'Gabba'. It is made out of old woolen blankets. Applique is then done on the processed blankets..

tered by the Ganga and its tributary Yamuna.

It is said that 'Chikan-kari' originated in East Bengal and was introduced by Nurjahan in the North. It flourished in Lucknow under the rule of Nawabs of the Awadh who were great patrons of the art.

'Chikan-kari' is done on a white base in white thread. Thus it is a symbol of elegant simplicity and chaste purity. Daintiness and delicacy are the outstanding characteristic features of this embroidery. There are many styles

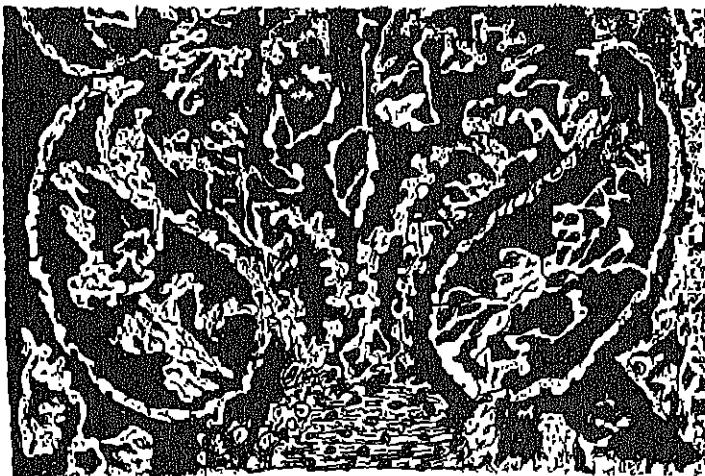


Fig.2.10 Chikan-kari of Lucknow

of 'Chikan-kari' namely, the flat, the embossed or knotted and the jali, etc. The flat style includes the 'bukhia' and 'Katao' designs. 'Murri' and 'phanda' are the varieties of the knotted style. Jalis are of many different kinds like the Madras Jali, Calcutta Jali, etc. These jalis are very intricately done. 'Bukhia' is the most complicated and intricate design of chikan-kari. It is the true chikan-kari also known as Shadow work. In this context the statement of Smt. Kamla S. Dongerkerry is very appropriate, "It is comparable to the shadow look of the present day. The stitches in this design cover the back of the cloth in the style of the herring bone stitch, producing an opaque effect on the surface of the fine white fabric and at the same time an outline of motifs of flowers and leaves with minute stitches resembling the strokes of the back stitch" (Fig 2.10).

'Katao', a minute applique work, also produces an effect similar to

'Bukhia'. The same fabric is used to give an opaque effect for applique. For outlining, a simple stitch is used. Gold and silver embroidery done on white cloth is known as the 'Kamdan' style. This style is often done on nets and produces an effect of lace work.

'Chikan-kari' work is used for producing handkerchiefs, napkins, mats, curtains, covers, kurtas, dupattas, sari borders, blouses, etc.

Kantha

When talking of embroidery one cannot overlook the 'Kanthas' of Bengal. 'Kantha' is done by women of all classes, generally in their leisure hours to produce exquisite fabrics out of worn-out clothes. It is believed that the making of 'Kantha' may take from six months to generations. The oldest specimen can be dated back to A.D. 1800. .

'Kantha' is generally done on old sarees sewn together. Several pieces of

cloth or sarees are placed one on top of the other till the required thickness is achieved and sewn together to form a padded piece. Then it is quilted in white thread which normally is drawn from old saree borders. Very often 'Kantha' is done in white thread on a white background. First the design is traced then covered with running stitches. But in the traditional method the work is accurately executed from memory without the help of a drawing or tracing.

'Kantha' has limitless designs, the most common being the lotus, kalasha, mandala, elephant, etc. (Fig 2.11). In

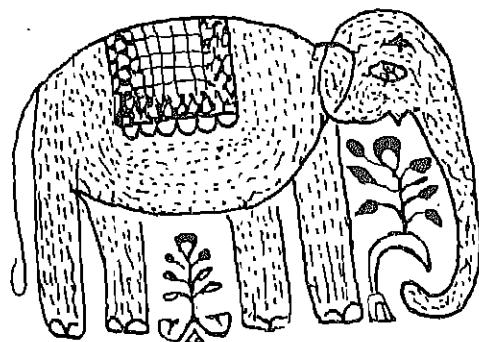


Fig. 2.11 Kantha embroidery from Bengal

In this type of embroidery many types of stitches are used, the commonest being the darn stitch. It produces a dotted effect and the stitches are so exquisitely made so that the design appears alike on both the sides. In another style of 'Kantha', it has a border with a repeat design in darning stitch which gives it a woven appearance. Applique is also common on Kanthas, which is of two kinds. In the first, coloured cloth cut into narrow strips

is sewn as outline on the design. In the other the motif cut out from red cloth is sewn on to a white cloth. Thus old rags are metamorphosed into something new, full of new vibrant feeling and totally new meaning.

The speciality of 'Kantha' is the way the legends and tales of heroism are depicted which makes them come alive on cloth.

Chamba Roomals

The 'Roomals' of Chamba in the north-western Himalayas are famous for their remarkable embroidery. They are big handkerchiefs or rather head shawls and have been, since old times, symbols of good omen. They form an important part of a girl's trousseau and were presented at festivals, weddings, etc.

The early designs were folk but later they were influenced by the Mughal painting, specially miniatures. This embroidery was greatly influenced by the 'Pahari School of Art' and was actually made famous by the 'Roomal'. The motifs are often figures, flowers, leaves, etc. which are embroidered to represent some mythological story or legend. The theme of 'Krishna Leela' is very often embroidered (Fig 2.12). Some times 'Ras Leela' i.e. Krishna dancing with Gopis is also depicted. Sometimes 'Roomals' depict various seasons too. 'Baramosal' is a very common design depicting the twelve seasons. Scenes from 'Ramayana' and 'Mahabharata', themes from mythological stories, games of Chopad, hunting scenes, etc. have also been depicted. The characteristic feature of these 'Roomals' is that it gives the impression of the embroidered figure to be in

worn by the bride at the wedding. Phulkari was an important part of the girl's trousseau. The girl had to start doing it at a very early age. It is a belief in Punjab that when a girl was born the mother or the grandmother started making a Phulkari to be presented to the girl at her wedding. Rohtak is believed to be the home of Phulkari. Rohtak, Gurgaon, Karnal, Hissar, etc. are well-known for embroidery.

The material used as the base is normally Khaddar generally in red, maroon or brown. The thread is silk and is in white, red, green, yellow or orange. The simple darn stitch is used for Phulkari. A characteristic feature of Phulkari is that the embroidery is done on the back side of the material so that the actual design appears on the front. Normally the motifs that are used are floral but geometrical motifs are also used (Fig 2.14). Like in the Shallmar Bagh designs only geometric motifs are used. There are many kinds of Bagh designs apart from 'Shallmar Bagh' like Chand Bagh, Miccha Bagh, etc. The 'bagh' style has the whole surface decorated by a connected pattern. 'Chobes' are larger than ordinary phulkari and are used only on special occasions. In them only borders are embroidered to a width of 3 or 4 inches but the middle of the cloth is left as it is.

There are other kinds of Phulkaris too. Like Shishedar Phulkaris which are different from other Phulkaris. They have tiny mirrors attached to them by the button hole stitches. Sindh is famous for this kind of Phulkari. Another type of Phulkari is the Kutch

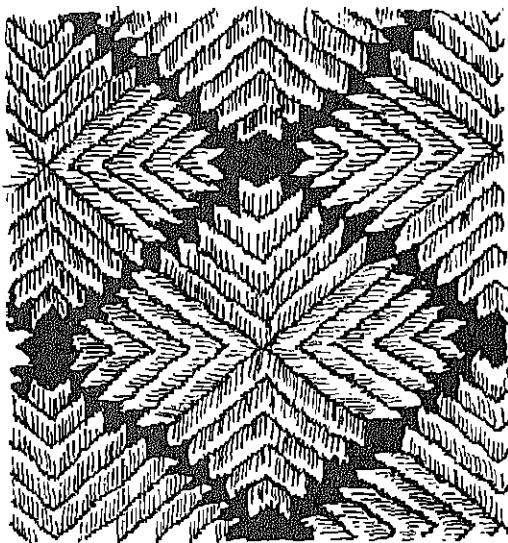


Fig. 2.14 Typical sample of Phulkari

Phulkari. It is the name given to the embroidered skirts of Kutch. Mostly chain stitch is used for the embroidery but herring bone stitch is also used.

Manipur has a style of embroidery which can be called exclusively its own. It is done with a silkier, untwisted thread of a dark colour, normally red, plum or chocolate. The embroidery is usually done on the border of the lungi worn by the womenfolk. The embroidery is extremely fine and chiselled and merges with the weave and thus looks a part of it.

Zari Work

Zari embroidery is the use of thin gold or silver threads for embroidery work. Surat and Varanasi are major centres for making the metal thread which is also known as 'kalabathi'. Zari embroidery is known as 'Zardozi'. It is supposed to be an ancient art, known even

in Rigvedic times. For long it remained a cherished item by traders who exported it to major countries of the world during the middle ages. Today it is practised all over India with several variations and styles. The popular styles are:

1. 'Salma-Sitara' in which small round pieces of gold or silver are set in between the 'Zari' work. This work is chiefly done by Muslim artisans in Lucknow.
2. 'Kamdan' in which the effect is that of thousands of dots, producing a glittering effect and hence the design is also called 'Hazarli butti'.
3. 'Minakari' in which gold enamelling is used.
4. 'Mokaish' done with silver thread called 'Badla'.
5. 'Gota' in which border is made entirely of gold or silver threads. In 'Gota Kinari' work, which is a speciality of Jaipur, figures of birds, animals, humans, etc. are cut out

of the 'Gota' and attached to the cloth. The cut-outs are then encased in wires of silver and gold.

Mirror Embroidery

The mirror embroidery of Kutch and Kathiawar in Gujarat and Sind in Pakistan is an integral part of all the aspects of life of these regions. An ornamental panel called 'toran' is hung on the doorway. This is considered a sign of good omen for the house. Square and rectangular pieces, known as 'Chaklas' are used to cover the furniture and decorate the walls. Varied types of garments and marriage costumes — all very colourful are embroidered and decorated with beadwork, small pieces of mirror, sequins, 'corries' and shells.

Mirror embroidery is the most attractive of all the embroideries, universally used even in latest fashion garments. Here, according to the design, small round shaped mirrors are fixed



Fig. 2.15 Kutch embroidery with mirrors

by button-hole stitch. Stem and herring-bone stitches are used with silk threads for working out the rest of the design. Amongst the dark background colour of the fabric, designs of flowers, creepers, peacocks, etc. in contrast colours create a dazzling effect (Fig 2.15).

Kutch embroidery is known as 'Aari Bharat' named after the hook called 'ari' which is fed with silk thread from below and in this process, creates loops. Repeated loops create a line of chain stitch. Chain stitch is used to give outline effect to stems, veins, flowers, peacocks, etc. in the design so that a clarity of design is there (Fig 2.16). This stitch is normally used on leather and is known as 'Mochi Bharat' as it is done by the 'mochis' (cobblers). In Rajasthan, the work of 'ari bharat' is done in which intricate patterns of dancing peacocks, stylized flowers, bushes and dancing women are created in bright colours. In 'Kutch' and 'Kathiawar', the embroidery is done on skirts, ghagras and cholis. Nowadays in latest fashion garments also, mirror work pieces are used to give an ethnic look. A piece of mirrorwork embroidery on a garment adds beauty and gives it a rich and gorgeous look.

Sind is no more a part of India but the style of 'Sindhi' embroidery is an integral part of all the mirror work embroideries. The typical style is produced by combining chain, darning and interlacing stitch. The interlacing stitch is known as the 'Sindhi Turopa'. Here the basic structure is built by looping the threads which form a hexagon, thus creating a lacy effect. This work is generally done on satin, velvet or heavy cloth,

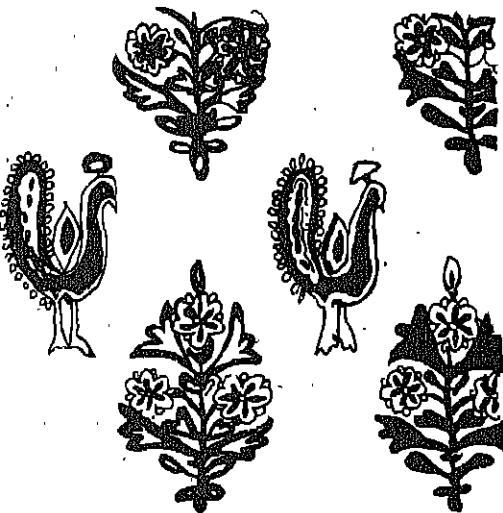


Fig. 2.16 'Kutch Bharat' embroidery done with the 'ari'

Kalamkari

The word 'Kalamkari' refers to the painted fabrics from South India. Machhlipatnam and Kalahasti are major centres in Andhra Pradesh. The word 'Kalamkari' is formed by combining two words 'kalam' meaning pen and 'kar' meaning work. As the name suggests, 'kalamkari' work is carried out by making an outline design with a kalam which is a steel brush. Generally molten wax is applied with the 'kalam' on the cloth which is already dyed in pale pink and stretched across a padded table. Nowadays wooden blocks are also used for printing outlines to speed up the production. The fabric is then dipped in the dye solution. The parts which are not waxed get the colour. Normally the rest of the colours are then applied directly by a brush, the wax outline preventing the colours from mixing. Sometimes the



Fig. 2.17 Kalamkari

wax outlines can be repeated several times. The process may seem similar to batik but the main difference is that here most of the work is done by brush painting and large areas are not waxed and hence the crackle effect is not seen. Finally the cloth is washed in hot water to remove the wax.

The colours are typical combination of red, blue, yellow and black against a pale pink background. The designs generally depict stories from epics.

Scenes from Ramayana and Mahabharata are taken, showing chariots, figures of gods and goddesses, etc. (Fig. 2.17). Other motifs used are peacocks, paisley, flowers, horses and elephants with men sitting on 'howdas'. Women usually have heavy chins and men have moustaches. The eyes are large and beautifully expressive. The special charms of these 'kalamkaris' lie in the sharp outlines made with brushes and the use of dotted lines.

giving it a beaded look.

Kalamkars were used as temple hangings as well as 'palampores' (bedcovers), prayer rugs, mats and other clothing materials.

Bandhani

Popularly known as 'Tie and Dye' it is a traditional art of decorating fabrics by dyeing. Rajasthan and Gujarat are major centres where this art is practised. Each region has its own distinct design and colour combinations, although the basic process is the same. In this process the cloth is tied in small knots according to the design. The tying of the cloth is done with a pointed nail or a special thimble. When the cloth tied in such a way is dipped in a dye-bath, the portions which are tied retain the original colour while the rest of the cloth gets dyed. The process starts with the white cloth and the dyes used move from lighter to darker shades. If white colour is not used, the cloth is first dyed in the lightest colour to be used. Then the portions which are to retain this colour are tied after which the cloth is dipped in the darker colour. This process is continued until the deepest colour of the colour scheme is dyed.

Amongst the special designs of 'bandhani' is the 'Ghar Chola' (Fig 2.18) design used on a saree which is the essential part of a Gujarati bride's dowry. In 'Ghar-Chola' design there are squares in golden threads and in each square a motif of an elephant, dolls, flowers, etc. is enclosed, made up of small dots. The saree is usually red in colour.

In Rajasthan the 'Chunri' is deli-

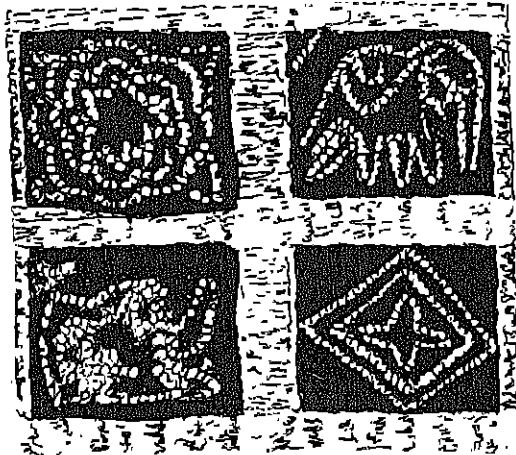


Fig. 2.18 Ghar-Chola from Gujarat

cate and very attractive in appearance. Here the motif is scattered all over in groups of dots, making simple yet fascinating designs. There are several designs of dots, rings, squares and circles which are made by folding the cloth twice or thrice to get repeat patterns. Many geometrical patterns are also made. Amongst the geometrical patterns are diagonal stripes, traditionally used in Rajasthan and known as 'Lahariya'. 'Lahariya' has long lines or bonds in different colours moving diagonally on the entire fabric or saree. 'Lahariyas' have special names like 'satrangi' or 'panchrangi' according to the number of colours used in the design.

Rajasthan also uses a special technique in which a light or contrast colour background is obtained against dark coloured dotted design. In this process, a number of colours are dabbed on to the fabric according to the design with a cotton felt pad and these areas are then tied. Now the cloth

is bleached so that extra colour is washed away and only the tied areas retain colour. After this, the piece is dyed in a single colour. The effect is

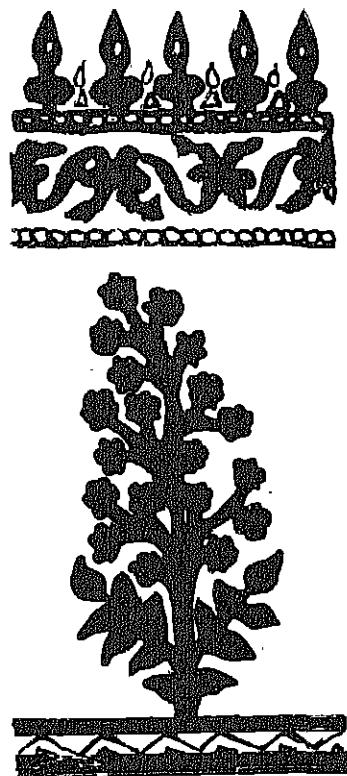


Fig. 2.19 Printing from Sanganer

fascinating—multicoloured designs emerging against a light coloured ground.

The art of 'bandhani' has now spread all over India. In North Bihar, mostly bold patterns in single colours are worked out. In South, Madurai is the place where the same technique is used and beautiful sarees known as 'sungri' are made. The art was carried there by people of Saurashtra and Rajasthan who settled there long ago.

Block Printed Textiles

Rajasthan is the main state where block printing is used extensively, Sanganer and Bagru near Jaipur and Barmer in West Rajasthan being the major centres. Farunkhbad in U.P. and Jamnagar in Gujarat have also emerged as important centres.

The general technique is common in all these places. The design is carved on a wooden block in relief, separate blocks being used for separate colours. The cloth to be printed is first bleached and washed. After drying it, it is stretched on a large table with a padded surface. The dye paste is spread over a piece of felt which is kept in a tray. The wooden block is placed over the felt so as to pick up the dye and then it is applied on to the cloth with pressure. First the block with the outline is used and then the internal colours are used. Three to four colours can be used easily (Fig. 2.19).

QUESTIONS

1. Name all the traditional Indian textiles and explain their importance.
2. Name traditional textiles from Gujarat and explain the different designs of the same.

3. Illustrate and explain all the embroidered textiles of India.
4. Explain the meaning and process of Kalamkari.
5. Explain the 'Bandhani' of Rajasthan and Gujarat in terms of colour design and method.
6. Write short notes on the following:
(a) Chanderi (b) Chikankari (c) Kaseeda of Kashmir (d) Phulkari (e) Kantha

CHAPTER 3

Traditional Floor Coverings

The use of furniture in Indian houses is a very recent concept and even today it is confined to homes in towns and cities. Most of the daily chores like eating and sleeping were done on the floor and hence floor coverings occupied an important place in a household. Traditional floor coverings were durries and mats. Even for festive occasions like marriages or community dinners, large durries were spread on the ground. The sitting space was covered with "chadars". In more well-to-do homes cotton filled mattresses called "masnads" were used while the richer gentry could boast of carpets or rugs.

The art of carpet making can be traced back to very ancient times. It probably must have originated among semi-nomadic people due to their need to cover their tents for providing warmth and to cover the hard ground to make it softer to sleep on. Thus the origins of this art can be found in the regions of Persia and Central Asia. Here, by the word "carpet" is meant rugs having a soft pile. Carpets and rugs are basically the same, the former normally referring to a piece bigger than four sq.m and the latter to a smaller one. However, the Americans

refer to machine-made ones as carpets and hand-made ones as rugs.

The oldest knotted carpet was found in Siberia and probably dates back to the 3rd-4th centuries B.C. But the real oriental rugs and carpets are from Persia, Turkey, Afghanistan and Russia. From these countries the art of carpet making travelled to other countries as well as to India.

In India the Persian influence was felt in about the 15th century and was first introduced in Kashmir. Soon it attained a high degree of perfection and reached the height of splendour in the 16th and the 17th centuries. Thus traditional art of carpet making flourished during the reign of Mughals who provided a favourable climate for the development of arts. During Akbar's rule a synthesis of Persian and Indian styles took place as he had brought with him Persian weavers in the country. Royal patronage helped carpet weaving become an important industry. As a result the taste of patronage was reflected in the designs and motifs of the carpets. The common designs and themes were flowers, fruits and hunting scenes. Gradually the designs became more sophisticated and

pictorial sceneries were depicted in a stylised way. The formal decoration of the Persian designing was converted to realism. Even in a single flower minute details were given which made it look almost real. The realism is typically Indian. Here it is relevant to quote John Irwin, a noted authority in Indian textiles: "This is reflected in the actual design of the carpet which although using the grammar and motifs of the Persian ornaments, employed a rhythm and a bold contrast of forms and colours which are characteristically Indian."

In Kashmir the carpet industry is said to have developed in the 15th century under Zain-Ul-Abdin. The carpet weaving of Kashmir was influenced by Kashmiri shawl tradition. Even some of the shawl weavers switched on to carpet weaving as they were in demand. The weavers adopted the 'Talim' (a weavers alphabet which was originally evolved for 'kani' shawl), for carpet weaving. Kashmir carpets are famous for their designs based on Persian influence. The famous floral and geometrical designs of Kashmir carpets are influenced by the Persian and Turkish styles, respectively. In Kashmir the old Indo-Persian and central Asian types 'Bokhara' are still made. (In Bokhara the wool is used even for warping). Generally they are made with fine quality wool on cotton warp but sometimes silk is also used for warping. The designs vary from medallions, and vases to stems, leaves, flowering trees, etc. Kashmir carpets are of a very fine quality as the range of knots per square inch varies from 125-500 knots. Thus by looking at the back of a carpet its

quality can be judged by the number of knots per square inch. The more the knots the better the quality.

Uttar Pradesh is also famous for its contribution to the carpet industry. It is said to have the largest concentration of carpet weaving factories. Agra, Mirzapur, Badohi, Khamarla are important centres of carpet weaving. The carpet manufacturing at Agra which reached its highest peak of splendour under Mughals declined with the fall of the Mughal dynasty. But around the middle of the 19th century the carpet industry at Agra got support from German industries but with little result and only after independence it could restore its lost glory. 'Phera Bolna' is a distinctive way of weaving used by weavers at Agra. The designs of 'Tajmahal' and 'Rajasthan' are made quite often and are also used on wall hangings. In the carpet designs of U.P., Chinese influence can also be seen quite often. These designs are embossed which give a sculptured look. They are woven tightly and in heavy quality where minute details are given. They have the plan of Persian styles but the themes are mostly Chinese having beautiful flowering buds, for example roses, lilac, lilies etc., wild animals such as crocodiles, tigers, elephants, dragons and Chinese legendary four legged beasts called 'Chilin', etc. Pastel shades are used with sparkling colour tones. 'Kandhari' is a design wholly influenced by the Chinese styles but is called Bengali or Nepali. A feeling of depth is created by shading the designs and sculpturing the outlines. Sometimes the outline is done by clipping.

In Punjab, Amritsar developed

carpet centres in the 19th century. The typical designs of this region are known as 'Mouri', probably derived from the name of a town 'Meru' in Central Asia from where it actually originated. The designs are basically geometrical patterns and they resemble 'Bhokharas' except that the octagons here are smaller and in light colours. Generally the background is dark red, golden yellow, white matching with black or soft olive green. These carpets have a double knot and lack stiffness.

Jaipur was once very famous for its high quality carpets. Some of the finest carpets of the Mughal era can be found in the City Palace Museum. The designs here are generally geometrical but sometimes little rosettes are enclosed within them. The colour combinations are of matching harmony, sometimes using two or three shades of green and blue together, giving a pleasing look. The fine quality of carpets with 400-600 knots per sq. inch is no more made in Jaipur. In Ajmer and Bikaner too carpets are produced.

In the entire Himalayan areas carpets are produced with a touch of distinctive style of each region. But there is a similarity of colours and motifs in the carpets. Here again the motifs are geometrical. They generally use vertical looms and almost every house has at least one. Here the weaving is generally done by women.

In South, 'Machlipatnam' in the eastern coastal area was an important port in the past. It is said that some Persian families came and settled in Elluru near Machlipatnam. They started the carpet industry there having an Indo-Persian influence. Local

motifs were introduced and typical Andhra names were given to them.

The names of the main carpets designs were often after the names of their patrons like "Ramchandra Reddy Khani" and the names of the motifs were based on flowers and fruits like 'Jamphal, guava, ambarcha', etc. Names relating to their origin like 'Noorjehan', etc., were also given to the carpet designs.

Warangal is also an important carpet centre. Here again the carpet industry was influenced by the Mughal style. Since cotton grew in abundance in this region and cotton weaving was popular, carpet weaving as an industry flourished when Mughals captured this area. Very fine and intricate carpets were woven here, using the traditional method of 'Talim'. The designs here also had Persian influence, but the motifs had their own individuality. Here again the names of the patrons were given to the design for e.g. 'Hashim Khani', 'Mahbub Khani', etc.

Thus we see that the art of carpet making was spread all over India. The two major influences in terms of colours, designs and motifs were Persian and Chinese. In some regions the influences were obvious as in Andhra Pradesh and at other places these influences had merged beautifully with the Indian style.

As we see the art of carpet making was given to us by Persia but though its origin might have been Persian, the Indian weavers very creatively adopted the craft and made it their own. Therefore, many designs in Indian carpets have Persian origin. However there is a school of believers in India who

stoutly maintain in spite of all evidence to the contrary that the art of carpet weaving is truly indigenous" (*Masterpieces of Indian Textiles* by Rustam J. Melita).

But sometimes the Chinese and Persian influence is so obvious when we see the typical 'Key' and 'Swastika' motifs of Chinese art and Persian floral motifs. No doubt Indian carpet designers changed them beautifully so that the total effect is altogether Indian.

How Carpets and Rugs are Made

Carpets and rugs are made on looms which are very strong structures fixed rigidly so that the carpet formed is straight and without any distortions. Warp threads are then stretched out tightly over the frame. These are usually made of strong cotton yarn. A border of weft threads, again of cotton, a few centimetres wide is then formed.

After this dyed wool in different colours is used to tie together two warp threads using a knot. The colour of the knots is as per the design. After a row of knots is complete, one or two weft threads are intertwined with the warp threads as in plain weave. Another row of knots is then tied. A comb, normally made of wood or steel, is used to push down the knots tightly against the weft threads. Fig 3.1 shows some combs and hooks used by carpet weavers.

Different Types of Knots

The knots, which are not actually knots but only loops, are normally tied in three ways. They are the Ghordes knot (Turkish), Sehna knot (Persian) and the Arab-Spanish knot. In the Ghordes knot (also known as Gordian knot) the two ends of the loop end up together in between two warp threads as shown in Fig 3.2. The Sehna (or Sinneh) knot is the one used in India. In it the

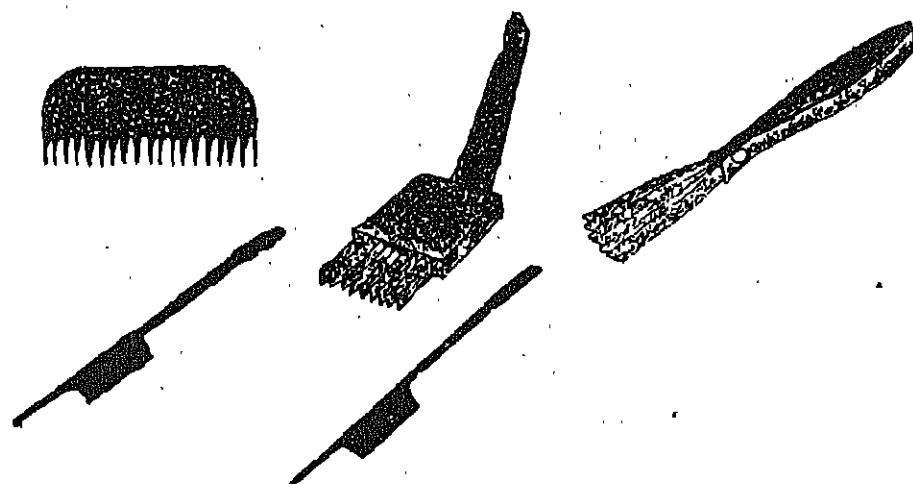


Fig. 3.1 Some basic tools used by carpet weavers

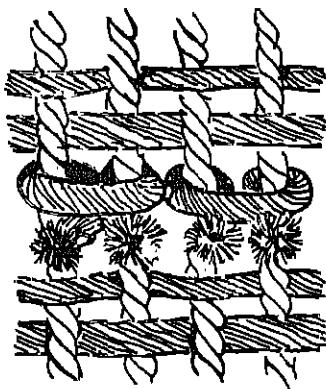


Fig. 3.2 Ghordes knot

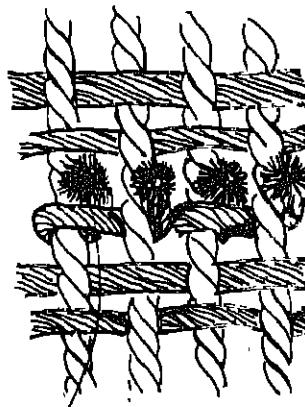


Fig. 3.3 Sehna knot (Persian)

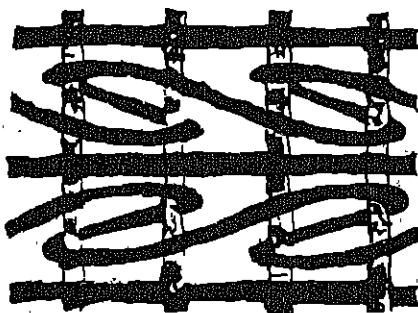


Fig. 3.4 Arab-Spanish knot

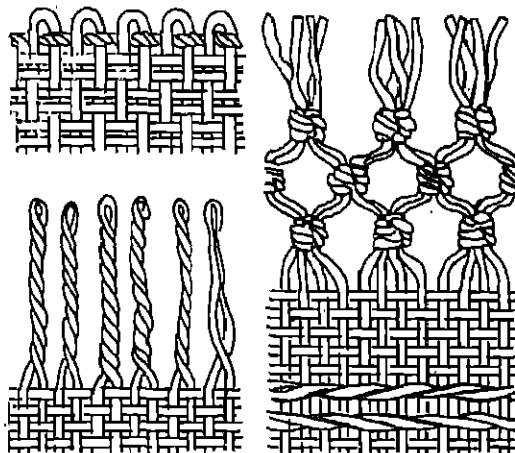


Fig. 3.5 Fringes for carpet finishing

thread is looped around one warp thread and is then made to emerge between the next pair of warp threads (See Fig 3.3). The Arab-Spanish knot is the easiest as it just loops around two warp threads and passes onwards to the next pair of warp threads, as shown in Fig 3.4.

On analysing the knots we see that the Turkish knot is symmetrical but the Persian is asymmetrical. While the

Turkish knot is more stable, the Persian knot results in a finer design with sharp outlines. It is for this reason that Persian carpets, and now Indian carpets which are made using the same system, are famous all over the world for their intricate designs.

While the traditional knots are all tied over two warp threads, in modern day carpets even three or more warp threads are tied together to save time.

This is called the 'Justl' knot. When repeated too often, it will result in a carpet of poor quality.

The quality of a carpet is often judged by the number of knots per square inch. While a carpet with 100 knots per square inch can be called a good carpet, those with up to 300 knots per sq. in. can qualify to be called a very fine carpet. Of course there are carpets which can be termed works of art with over 2,000 knots per sq. in. With millions of knots, a carpet like this will take years to make. Knots can be counted by turning the carpet over.

Finishing of Carpets

When the desired length of the carpet is woven, it is taken off the loom by cutting the warp threads. The warp threads can be left loose or may be tied together in different ways to form fringes. Three types of fringes are shown in Fig 3.5.

Finishing of the carpet is then done as per the surface appearance desired. These surface appearances can be

1. Cut pile
2. Uncut pile
3. Combination of cut and uncut pile
4. Sculptured effect

Cut Pile

This is the most common surface appearance. For this, the loops are cut evenly by a master craftsman. The exposed yarn, if left in the twisted form, will give a hard look but if the yarn is frayed at the ends and a soft, plush look is achieved.

Uncut Pile

The loops can be retained without cut-

ting to obtain a pebbly, hard surface as in tapestry.

Combination of Cut and Uncut Pile

The loops can be cut in some places and left as they are in other places to give an interesting surface appearance.

Sculptured Effect

Loops of different heights are made to give a textured or a carved look. The loops may be cut in some places and left uncut in other places to make beautiful patterns.

After the cutting of the pile is done, the carpet is thoroughly washed in chemicals and plain water to remove dirt and small fibres left by cutting and to give a lustrous sheen to the carpet.

Now-a-days the back of the carpet or rug is also given a finish to make it durable and firm. The back is coated with plastic binder, latex foam or polyurethane foam. Such rugs can be cut according to the shape of the place where they are laid without fraying the edges. They are commonly known as patent backed rugs.

Designing of a Carpet

Design of a carpet is made on a graph paper normally marked in inches, each inch divided into ten divisions. Each small square of $0.1" \times 0.1"$ is filled in with the colour required in the carpet. The entire design is thus made on a graph paper. This design, called a 'cartoon' is placed in front of the weaver. Each small square represents a knot and the weaver uses the colour as shown in the cartoon. For finer designs a graph with centimetres or special graph paper can be used.

Durries

Apart from carpets and rugs a large variety of floor coverings such as durries, etc. are also made extensively in India. Since pile carpets are generally highly priced, durries which in comparison are much more economical are widely used in Indian households.

Durries are mainly made of cotton yarn and are like a thick fabric, therefore, they can also be used for various purposes. Durries too have a rich variety of designs and colour combinations coming from regions all over India. Durries from Punjab, Himachal Pradesh, Uttar Pradesh, Karnataka, Madhya Pradesh are famous for their indigenous styles.

Navalgund, a place in Karnataka, was once a carpet weaving centre, but its decline gave way to cotton. Here Durries are ornamented by highly decorative and intricate designs having unusual patterns and beautiful colours. The designs are geometrical, outlined by floral motifs. They are locally known as 'Jamkhands'.

"Bhawani" durries of Tamil Nadu are also very famous and are woven in cotton and silk. Traditional designs are woven in brilliant colours.

Normally there is a central pattern of a lotus bordered by floral patterns and stylised parrot forms.

In Dharwar districts of Karnataka a special type of 'Durrie' called 'Sutada' is made. It has simple horizontal stripes of different colours.

Warangal in the South also produces 'durries' on a large scale. They have simple motifs, attractive shades and contrasting colour borders.

In Madhya Pradesh, durries made in 'Jobat' are famous for their delightful colours and sturdiness. Weaving is simple, done on pitlooms with 'Panja', a wooden contrivance.

Himachal also produces cotton durries usually in red or blue which are plain. Sometimes designs are produced by using threads of different colours or thickness.

Punjab was once very famous for its 'durries'. The primitive style of weaving can still be seen here. 'Punja durries' are very famous for their pattern. Their weaving is done with a series of colours depending on the pattern. In these 'durries' there is no wrong side due to interlocking of the threads. Nikodar is a big centre where two types of 'durries' are made. 'Durries' to be used for beds are made on pit looms and have multi-coloured stripes. Those for floors are made on a loom called 'adda' and have two contrasting colours. The designs generally used are stripes, geometrical and stylised animal, bird and human forms.

In Rajasthan the technique of interlocking the threads is further developed to make sophisticated floor coverings. 'Namdas' are also made in Rajasthan. The designs are either embroidered or painted and are local and traditional.

In Darjeeling, West Bengal, traditional 'durries' are woven by 'Bhutias'. Their designs are influenced by Tibetan patterns like dragons, clouds, etc.

Druggets are another kind of floor coverings. They are normally woven at places that make carpets as they are woven with cotton and woollen waste. Druggets of Bangalore, though similar

to other cotton floor coverings are woven with a slightly heavier pile. They have bright patterns having geometrical shapes and stylised floral patterns with a lighter background.

Kashmir has two very interesting floor coverings known as 'Namda' and 'Gabba'. 'Namda', also made in Rajasthan is a pressed wool and cotton felt rug. Felt is used as a background and is locally prepared. Elaborate designs are formed by embroidery in chain stitch and applique. Designs are normally geometrical and floral with combinations of deep and bright colours. 'Gabba' is a rug made of rough woollen material as base. They are appliqued with bright pieces secured with chain stitch.

Kilims

Another form of floor covering though not used in India is the 'kilim'. This can be called a cheaper version of the carpet and is used extensively in Persia, Russia and Turkey. This is much like our 'durry' but is made of wool. Kilims have designs similar to carpets but unlike carpets they have identical designs on both the sides and it is difficult to differentiate between the right and the wrong side. They can therefore be used on both the sides and when one side is worn-out they can be turned over. Kilims also have very fine designs. The colours are bright and designs are geometrical. Diamond-shaped medallions are very common motifs. Although the geometric design themes are traditional they go very well with modern interiors. Hence they are being used as furnishing fabric also, apart from floor coverings. Finer kilims can

be used as bed covers, table linen, sofa backs, etc. As they are light in weight they can also be folded and stored in a small space. A kilim knot is shown in Fig. 3.6. Note the difference between this and a carpet knot.

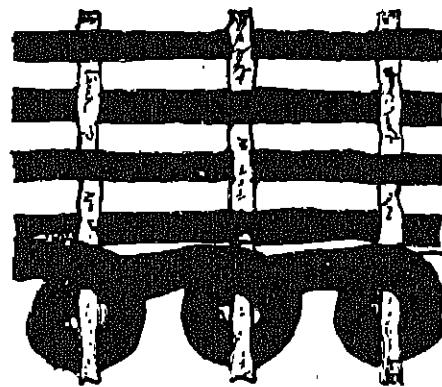


Fig. 3.6 Kilim knot

In India, 'durries' fashioned in the style of kilims are being made and exported.

Tapestry

The word 'tapestry' is being used very casually today, and is taken to mean any cloth having a pattern. Actually tapestry means a cloth which is woven in such a way that a pattern emerges during weaving itself. An embroidered or painted pattern which is applied on the cloth after it is woven will not result in tapestry. Many intricate and beautiful designs can be created on the loom itself by careful interaction of the warp and weft. Several tapestries have been considered work of arts and have been kept in museums. Even portraits and beautiful scenes have been made on tapestries.

In tapestry, the warp is normally

of wool or linen while the weft is wool, silk or even gold thread. Chinese tapestry is sometimes entirely made of silk.

In the past tapestry was considered a status symbol as it was a work of art. Wall hangings with picturesque scenes were used in luxurious homes. Today, however, tapestries are mass produced on machines with simple patterns and are being used as furnishings and upholstery.

Tapestry looms are normally of two

types—the high warp and the low warp. Looms for tapestry weaving do not need a batten to beat the wefts down.

The design in tapestry weaving is achieved by using weft threads of different colours. They do not pass all the way across the warp but only where that colour is required. Loose ends are left hanging at the back when the area requiring the particular colour is finished. All the warps are thus covered by interlacing different coloured wefts.

QUESTIONS

1. Give a brief account of the origin and history of carpets.
2. Explain how carpets are made? Illustrate and explain with different carpet knots.
3. Describe in detail the method of designing and finishing of carpets.
4. Write short notes on the following :
(a) Durries (b) Kilims (c) Tapestry

CHAPTER 4

History of Indian Cultural Heritage

Indian civilization is one of the oldest civilizations of the world. Its existence is said to be 5,000 years old, making it as old as any other civilization found anywhere else in the world, the other contemporary civilizations existed in Egypt, Sumer and China. However while these ancient civilizations have all been consumed by the ravages of time, along with many other mighty civilizations like that of Babylon, Greece and Rome, the Indian civilization is still flourishing, having withstood the onslaughts of hundreds of invading cultures. This has astounded the historians but the reasons for the survival of Indian culture is simple. Instead of trying to annihilate the invading culture or bowing down before it, India simply assimilated the invading culture in itself. This undoubtedly changed its own character slightly but it emerged finally as a stronger culture gaining in strength to survive for many more years.

To study this seemingly invincibility of Indian culture and heritage we have to study the factors that influence a nation's culture. These factors are— Environmental, Sociological, Political, Economical and Religious.

Environmental

The environment of a country greatly affects the life and thinking of its people. The environment of a country can be said to be its geographical features and climate. India is a vast country, stretching about 3,000 km. from West to East and about the same distance from North to South. In the South it is bounded by the Indian Ocean while in the North it is completely enclosed by the Great Himalayas. Although this made it a distinct geographical unit, yet it did not prevent people from other parts of the world from filtering in through the passes in the North West. It is estimated that people have been migrating into India from the times of the Stone Age and perhaps finding ideal climatic conditions they decided to stay on. From this it can be concluded that the Indian people of today have blood of many races of the world and it is perhaps this factor that has made the people here so tenacious and flexible.

Though the country is a distinct geographical unit, within itself it has many different zones with different physical features, climates, natural resources, etc. There are also natural barriers, which though not insur-

mountainous have provided some sort of segregation between people living in different zones, which resulted in different strains of the Indian culture, and growth of different languages. The Vindhya ranges provided a sort of barrier between the North and the South which resulted in different kingdoms in different parts of India and there are only a few periods in Indian history when a king could rule the entire subcontinent. However these ranges never prevented people of the North and South from interacting with each other. Thus we see that while the environmental conditions resulted in diversity of the people yet there was an underlying unity in the subcontinent.

Besides geographical features, the climate too affects the culture of a country. Since the climate too varies from place to place and time to time we find a great variation in the costumes of the people. Since the overall climate is warm, only scanty covering is required except in the winter months or in mountainous areas like Kashmir. From the early days of the Indus civilization up to the middle ages, the people — either men or women — were scantily dressed with most of the body not covered. The dress consisted of two or three pieces of cloth and those too were unstitched. These clothes were made of very thin fabric. However the coming of the invaders from AD 1000 onwards changed the dress of the women drastically more because of sociological reasons than environmental reasons.

Sociological

We have seen that the Indian people

are an amalgamation of perhaps all the races of the world. Even from pre-historic times people from Australia, Mediterranean, Caucasus, Africa and Mongolia have filtered into India. In the known period of history Aryans from Central Asia were the first to arrive around 2000 BC. They pushed the Dravidians living in Western India to the South and occupied major portions of North India. They were mostly agricultural pastoral people. They propagated the Vedas and a way of life that can be called the Varna system or the caste system. This system, as well as the language, spread across the country and was adapted by the pre-Aryan inhabitants of India while the Aryans too adapted many traits of the Dravidians. This form of social organization which spread across the entire country during the Vedic Age can be called the basis of Hinduism, although the term 'Hindu' was used much later in history.

Prior to 600 BC, small kingdoms or republics were established all over India, but after that large empires came to be formed starting with the Magadha empire. This resulted in far-reaching social changes in the country as agriculture began to spread far and wide and cities came into existence once more. Two new religions — Buddhism and Jainism also evolved at this time. Around this time new waves of settlers from Central Asia and Europe began. The first ones were the Greeks, who came in the wake of the invasion by Alexander. They ruled vast areas in the Punjab and Afghan regions but were slowly absorbed in the Indian stream, many of them taking up Buddhism.

Marriages took place between them and the local inhabitants, the first one being that of Chandragupta Maurya and Helen, daughter of Selucus, who was a commander in Alexander's army.

Over the next few centuries, many other tribes came as invaders but settled down to live here. They were the Indo-Greeks, the Shakas, the Parthians, the Kushana and the Huns. Needless to say they brought their own brand of culture, their arts, crafts and architecture and as they submerged in the great Indian culture their culture too synthesized with it. They accepted one or other Indian religions, many of them becoming Buddhists.

We see that the tribes who came to India up to AD 1000 intermingled fully with the local inhabitants so much so that they had no separate identities but those coming after it have remained as separate units even after hundreds of years. One reason for this could be that because of the rise of 'brahminism' the caste system had become very rigid and the untouchables were treated badly. The new tribes that came were also looked down upon as 'untouchables' because of their different religious practices. Thus the assimilating powers of India had eroded. Another reason was that the new invaders followed the Muslim religion and were very rigid in their views. They detested idol worship and hence destroying temples for them was sort of a religious warfare. This alienated them from the Hindus who worshipped thousands of Idols. The Muslims ate beef while Hindus considered the cow to be sacred. However, not only Muslims but the later religions that flowed into India like

Zoroastrianism and Christianity remained aloof from the Hindu religion.

In spite of religious differences, there was a lot of interaction between Hindus and Muslims. Their ideas influenced each other and their dresses, architecture, arts, crafts, music, dance and many other lifestyles showed a great intermixing of cultures. Due to the influence of the Muslim way of life, one adverse effect on the Hindu culture was the falling in status of the women. The Hindus had always given a high status to women. Manu had said that "Gods live where women are worshipped." Under the Muslim influence, women were confined indoors and purdah system evolved. Doors of education were closed to them and to save them from the invaders, they were married off in childhood only. Widow remarriage was prohibited and 'Sati Pratha' became dominant. It was only the social reformers of the nineteenth century who could do something to uplift the status of women with the help of the British Government. After Independence, laws have been made to give equal status to men and women.

One way of life that changed a great deal after AD 1000 was the way of dressing. Before it, women were as scantily dressed as men and had no inhibitions about exposing their bodies, much like the Western women of today. But as the invaders had evil designs on women, it was considered more prudent for the women to cover themselves up more properly. Coming of the Muslims with their strict code of dress for the women and the purdah system influenced the local women and soon we find them covering themselves

fully and the *purdah* system too was adopted. Of course the tribal people were not affected by the change in the dress code. While the Muslim culture greatly affected the dress of the women, the western culture affected the dress of menfolk too. With changes in the living styles and people moving from villages to cities, the traditional dress of 'dhoti' 'angarkha' and 'turban' became cumbersome and people took to shirts and pants. The headgear was mostly discarded. As the women also moved out of the house to work in offices and factories they too had to give up the saree and take to western dresses and suits. Still the saree continues to be the most popular dress of the subcontinent, showing our affinity to our culture and age-old traditions.

Political

The political climate of a country has a great bearing on its culture. Political stability results in advancement of all the aspects of life that affect the culture of a nation. On the contrary, frequent wars and unstable governments when the populace is busy fending off economic deprivation has an adverse effect on the advancement of culture. Those of you who have studied European history know that the period between AD 500 to AD 1000 was known as the Dark Ages as there was no political security during that period and hence no advancement of culture took place. The same period in India is marked with glory as several great kings ruled the country both in the North and the South and there was an upsurge in the fields of science, literature, fine arts, architecture, etc. all of

which added to the rich cultural heritage of India.

Not much is known about the political life of India — the Ancient or the Vedic Age. There were small kingdoms or republics and life in general was simple and peaceful. The genesis of Indian culture can be traced to the Vedic Age. By 600 BC, however, bigger kingdoms and empires began to be formed. The kings who ruled were enlightened and laid great stress on education, literary activities and development of art and crafts. Ajatshatru, Chandragupta Maurya, and Ashoka were great kings and during their reigns a great deal of cultural enhancement took place. The invasions by Greeks, Indo-Greeks, Shakas, Parthians, Kushans and the Huns also had no adverse effects on our culture as these foreign influences were absorbed and assimilated in our culture making it stronger. The Gupta empire which followed these invasions too had enlightened kings, the most notable being Vikramaditya. His court had great writers, musicians, architects and scientists. The age that followed is known as the classical age when all the arts and sciences made notable advances. It is important to note that the contemporary period in Europe was known as the Dark Ages. Chinese travellers Fa-Hien and Huen Tsang who toured India extensively during AD 400 and AD 700 respectively gave a glowing account of the culture of India during that period. Great kingdoms in the South, like those of Chalukyas, Rashtrakutas and the Pallavas also contributed a great deal to Indian arts and crafts. Great temples were built in the south during that period.

Political stability continued till about AD 1000 but then the great wealth of the Indian subcontinent started attracting marauders from Central Asia and a series of raids began. The main aim of invaders were the temples which were stocked with gold and riches. The temples were destroyed in the name of Islam which condemned idol worship.

Several rulers and dynasties ruled India till the 16th century when finally Akbar consolidated the Mughal Empire. He was an enlightened ruler, the greatest since Ashoka and under his benevolent rule India once again achieved the age of magnificence. His successors Jahangir and Shahjahan carried the tradition forward but Aurangzeb once again put a stop to many cultural activities because of his orthodox Muslim background.

India again deteriorated rapidly and for the first time the Dark Ages set in the Indian subcontinent, the culmination being the subjugation of the entire subcontinent by the British with some pockets under the control of the Portuguese and the French. During this period Indian arts and crafts suffered badly and the Industrial Revolution of Europe almost killed the cottage industry set-up of India. The rule of the British was beneficial only in the sociological context where several evil traditions of India like the 'Sati Pratha', etc. were banned.

The Dark Age finally seemed to subside with the rising of the sun in the form of Mahatma Gandhi who with his brilliance transformed the social and political life of the country, and gained for it its independence. The subconti-

nent was unfortunately divided as a result. After independence, India has made rapid advances in regaining its past glory. This has been possible because of a stable democratic form of government unlike in the other newly independent countries of Asia and Africa.

Religious

Amongst the factors that are responsible for having an influence on the culture of a country, perhaps the most important of all is religion. It is the religious beliefs of a country that have a great bearing on its culture. The more enlightened the religion, the more advanced is the culture. When there is one dominant religion in a country, the culture is entirely shaped by it but in a multi-religious country like India, cultures of various religious groups influence each other because of the continuous interaction between them.

To study the influence of religion on Indian culture we have to go back in history.

In any society, the advent of religion can be traced back to the Stone Age when people worshipped the forces of nature as gods. The sun, the moon, the wind, fire, rain and lightning were considered as influencing the life of man directly and hence they were worshipped and offerings and even sacrifices were made to appease them. In India too these practices existed but with the settling down of the Aryans, some deep thinking took place and for the first time definite ideas were evolved regarding life and the universe. The existence of an all powerful force that controlled each and every atom of

the universe was recognized as 'Eshwar' which manifested itself in the form of the trinity Brahma, Vishnu and Mahesh. Each and every happening was supposed to be predestined. The concept of soul that lived on even after death was propagated. If you lead a life of purity the soul would go to heaven after death, otherwise to hell. The soul is then reborn in a new body and the cycle goes on until finally the soul attains 'Moksha' i.e. merges with God and you do not have to bear the sufferings of life any more. The theory of rebirth also propagated that you have to bear the consequences of the deeds that you are doing in this life in your next birth. All this was meant to dissuade people from indulging in sins. The way you have to conduct yourself in society, amongst your family members, with your own self—all this was explained thoroughly by the learned sages in the form of 'Mantras' and all this knowledge was compiled over the ages in the form of four 'Vedas'. This period of history was thus known as the 'Vedic age' and the religion propagated is the Vedic religion. This religion which later came to be known as the 'Hindu' religion still exists with some modifications but with the basic tenets remaining the same. Several invaders who came and settled down in India, adapted this religion and became one with the local inhabitants.

The basic idea behind the Vedic religion was to wean away people from a life of sin but very soon a sect of priests developed who started telling people to atone for their sins in this life only by conducting 'Yagnas', making offering to the gods and to the priests and by do-

ing penance like fasting, etc. Eatables like ghee, milk, fruits and wines were consumed in the Yagna fire along with a lot of wood and even animals. By promising a higher form of life in the next birth, the priests who belonged to the Brahmin sect secured exalted position for themselves which resulted in a cast system where the 'Shudras' were relegated to a very low status. The priests, or the 'Rishis' who went into the jungles to perform yagnas were opposed by the tribals who probably did not like cutting of trees and sacrifice of animals. The Rishis termed them as 'rakshas' or 'asuras' and pressurised the Kshatrya kings to annihilate them. All this led to a great deal of wasteful ceremonies and violence in the form of killings of animals and 'asuras'. However Vedas, Upanishads, Ramayana and Geeta are amongst the great gifts of the Vedic age to the Indian culture.

This aspect of the Vedic dharma was opposed by two reformers who were born in the 6th century B.C. They were Gautam Buddha and Mahavir. Both were born in royal families but renounced all the riches and went into meditation to find salvation for mankind. Their teachings later gave birth to Buddhist and Jain religions. Although both these religions accepted the basic tenets of Hinduism like theory of reincarnation, moksha, bearing of the consequences of one's sins in this life of the next, etc., they advocated a different way of life. They both discarded the wastefulness of the Yagnas, superstitions, the 'himsa' that had crept in everyday life and the caste system. The main tenets were 'ahimsa',

forgiveness, humility, piety, good character and pity. The Buddhist religion spread far and wide up to China, Japan and South East Asia. Emperor Ashoka became a convert to the Buddhist religion and spread its messages to far off countries.

Jain religion spread far and wide in India. Both the religions influenced the cultural life of India's great deal. We find beautiful paintings and sculpture belonging to Buddhism at Ajanta and Ellora. Beautifully carved temples belonging to Jain religion are found all over India. A lot of literature is also found belonging to the Jain religion.

Hindu, Jain and Buddhist religions developed in India only. The intruders who came to India and settled here had no religion of their own and were easily influenced by the religions prevalent here and so they got converted to one or the other. However, some powerful religions were developing in other parts of the world and centuries later, they percolated into India. Amongst these were Christian, Muslim and Parsi religions. Travellers coming to the shores of India brought these religions to India, specially to the south where churches were constructed and Christianity was practised. Christianity preached equality of all humans and this appealed to those who were at the bottom of the cast structure. But this religion did not have much influence until the 18th century after which it flourished because of the British, Portuguese and French rulers. The Parsi religion also slowly percolated from Persia into India and the small minority still practises this in India.

Muslim religion, which was advocated by Hazrat Muhammad around AD 600 was perhaps the only religion which was spread by the power of the sword. For this reason, it spread far and wide very quickly. From AD 1000 onwards a series of invasions by Muslim marauders like Mahmud Ghaznavi, Mohammed Gauri, Ibrahim Lodi and Babar took place. Muslim religion decries idol worship and hence the main target of attack by the Muslim marauders were the temples which not only treasured gold and wealth beyond imagination but also sculptures of exquisite beauty and books of immense value. All these were destroyed in the name of religion. By the 15th century, Muslim rule was established in India. Normally wherever Muslim rule was established the entire populace was entrenched Hindu, Jain and Buddhism, this could not take place in India although a large section of people got converted to Islam. To stop the spread of Islam, Guru Nanak formed the sikh religion which was a militant community to oppose Islam by force.

Although Islam was not adopted by the majority, yet it had a great influence on the Hindu community. Although the basic tenets remained the same, yet the character of Hinduism underwent a great change on the surface. This was evident in the form of dress, language, customs, etc. Purdah system, child marriage, sati-pratha, etc. were the evils that crept in due to the Muslim rule. However, in general the Mughal rulers were benevolent towards Hindus, Akbar being a great believer in the equality of all religions, but under Aurangzeb Hinduism had to suf-

fer. On the other hand, Hinduism too had a great impact on the Muslims who came and lived here. Hindus and Muslims lived in peace and harmony for centuries, but unfortunately the British put a wedge between these two communities to safeguard their own interests. In spite of the great unifying efforts of Mahatma Gandhi, the country was divided into two at the time of independence. But in the best tradition of our age-old culture which covers all the religions, the Indian Constitution declared India to be a secular country with no state religion and where all religions are treated with respect.

Economical

The wealth of a country has a great bearing on its culture. It is said that when a country has too much wealth, decadence set in. The example is given of the Roman Empire around the time of the birth of Christ which became so wealthy that people lost all sense of morality and the entire civilization crumbled. People point to the western civilization of today and lay the blame for its many ills on the fabulous wealth that it has accumulated. However, the same cannot be said to be true in the case of India. If we look back in history we find that whenever India was prosperous and wealthy, its culture

shone in all its magnificence. Normally the periods that were prosperous had enlightened empires and the kings and the emperors used the wealth not for their own pleasures but for the general good. A lot of wealth was used for building magnificent temples, monuments and other buildings of great architectural value besides building roads, digging wells, planting trees, etc. All this provided jobs to craftsmen and labourers which made them prosperous. This was true of the Mauryan and the Gupta Empires in the North and the Chalukyas, Rashtrakutas and the Pallavas in the South. Magnificent reminders of the wealth of those times still remain in the form of great edifices. However, this wealth attracted the invaders of Central Asia who plundered and looted India for several centuries. Later the Mughal rule again restored some of India's lost glory, specially during the reigns of Akbar, Jahangir and Shah Jahan but decadence again set in from 17th century onwards. India became a poverty-ridden country during the British rule. With the gaining of independence, however, efforts are again being made to revitalize the economy and it is hoped that may ills like corruption, criminalization, nepotism and other will end once India becomes prosperous again.

QUESTIONS

1. Give a brief account of history of Indian cultural heritage.
2. Which are the factors that influence a nation's culture? Explain how?
3. 'Religion is said to be the greatest factor responsible for the changes in the cultures', comment.

CHAPTER 5

Creative Textile Crafts

India is famous for certain traditional methods of making textile patterns which are not regular methods of printing because they are a combination of craft techniques and the individuality of the region to which they belong. These craft techniques mainly include 'resist' style, 'dyed' style and 'direct' style. The 'resist' and 'dyed' styles are the oldest techniques. There are now quite a few new techniques which have evolved with the development of technologies such as transfer printing and flock. These methods are highly sophisticated but they are being used as crafts also at their basic levels for the students of Textile Designing or even kids. These processes are not very difficult if the required chemicals and raw materials are available easily. One needs a little bit of creativity and a habit of experimenting to create new creative crafts. All these styles can be used in combination with a great variety of devices, from the simplest brush or thread as in 'tie and dye' to the most elaborate and sophisticated modern screen printing and transfer printing. It is the exploration of these devices and the development of all the indigenous aids for imparting pattern to cloth that is

our main concern in this chapter.

So now in the following pages we are going to deal individually with each of these traditional and creative crafts.

Batik

Batik is an ancient art, being practised in Java as long back as in 1500 BC. It was discovered by the Europeans about 2,000 years back and it soon got worldwide popularity. The word 'Batik' is derived from Javanese word 'tik' which means a 'drop'. This is because wax or a molten liquid is applied in drops on the fabric. During the Sung Dynasty in Java around AD 1000 it was practised as an art by the royal women for making decorative cloth for themselves. During the past 2000 years this art hardly underwent any change but lately due to commercialisation, many changes in technique and design are taking place. Although the art is practised all over the world today, India has made a great deal of contribution to its improvement.

Batik is a resist dyeing process in which wax is normally used as resist. But in the desert area of Rajasthan and Saurashtra, it has been practised for centuries by using a special type of

dried mud to which lime, soap and gum are added to form a paste. Wooden blocks are used to apply this paste on the cloth. Vegetable colours are used to dye the cloth.

The credit to bring the wax process to India goes to Shri Rathindra Nath Tagore, son of Shri Rabindra Nath Tagore who introduced it in Shanti Niketan.

Basic Tools

1. Stove or heater.
2. A pot in which to heat wax.
3. A wooden frame to fix the cloth with

the help of thumb tacks.

4. Tools for applying wax which could be
 - (a) Brushes of different sizes, preferably of stable hair.
 - (b) Tjantings which are special tool as shown in Fig. 5.1. These are not easily available in India but can be made with some skill and ingenuity.
 - (c) Wooden blocks.
5. Plastic buckets for dyeing.
6. Measuring spoons and jars.
7. Rubber gloves.
8. Press Iron.
9. Old newspapers.

Technique

Pretreatment— Preparation of Cloth

First the cloth is boiled or washed according to the fabric chosen to make it completely free of starch, and other impurities. After it is dried the design should either be traced or drawn on the cloth. Then accordingly the cloth should be stretched on a frame as it makes waxing easier.

Selection of Wax

There are two different types of wax which are available— first is bees wax which is yellowish in colour, soft and pliable, and is suitable for areas having less cracks, second is paraffin wax which is whitish in colour, more brittle and is suitable for areas having more cracks.

Preparation of Wax

Generally the ratio of bees wax to paraffin is 1:2. But for different crackle design effects the ratio can be changed.

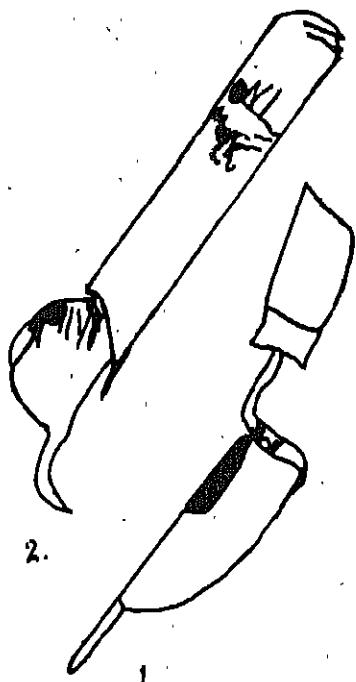


Fig. 5.1 Tjantings

For example, in a painting if a human figure is required to have less cracks more proportion of bees wax could be used or vice-versa if more cracks are required. Powdered resin is also added when the wax is in a liquid state which acts as a binder for wax. Its quantity also depends on the type of wax used. For example, in the case of paraffin wax, more resin is used since it is too

brittle and can peel off to give patchy effect.

Application of Wax

Hot wax spreads on the cloth very quickly so care should be taken to apply the wax leaving a little gap against the final design line. It should be made sure that wax reaches both the sides of the material. At least three coats

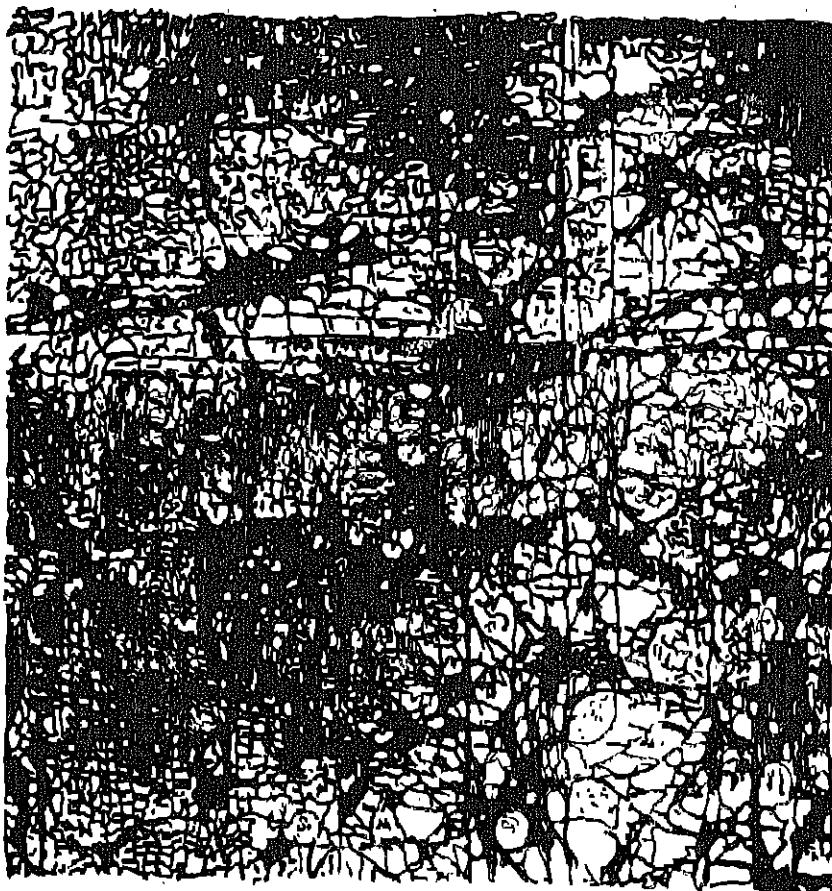


Fig. 5.2 Crackle effects

should be applied on alternate sides. Cold wax also gives a thick coat but does not adhere to the cloth properly and peels off easily so care should be taken to re-heat the wax to the right temperature.

Wax is first applied to those places where the white colour is to be retained. At least three coats of wax have to be applied on each side of the cloth, alternately. After the waxing the cloth is dyed in the first colour. After drying of the cloth waxing is done where the dyed colour has to be retained. The process of waxing and dyeing is repeated ranging from light to dark colours. Unnecessary folding or crushing of the cloth should be avoided as it may produce patches or unwanted crackles.

Dyeing and Rewaxing

Batik dyeing is always done in a cold dye bath because hot dye bath would melt the wax design and spoil the fabric. Care should be taken to get the proper crackle effects while dyeing (Fig 5.2). A flat and big sized tub should be used for dyeing instead of narrow buckets so that the fabric does not get squeezed and the design is not spoiled. After dyeing, the fabric is washed and rinsed in cold water and then dried. The cloth should be completely dried before the second coat of waxing is done. This process is repeated according to the number of colours selected and the design. Finally the cloth is dewaxed.

Dyeing Method

Mostly napthol dyes are used for Batik. In this process the cloth is dipped twice in two different dye baths, first

containing the base and second, the colour salt. First the fabric is dipped in the base solution and then transferred to the other. The method of preparing the dyes and dyeing the cloth is as follows:

- (a) For 1 metre of cloth take 5 gms of base, 10 gms of colour salt, 1 level teaspoon caustic soda, 1 tsp turkey red oil.
- (b) For preparing the first dye bath of base, take 1 tsp turkey red oil and mix it with the base using a little warm water in a small enamel mug or cup.
- (c) Now add 1 cup of water and put the solution on stove and bring it to boiling point. Remove from fire and add cold caustic soda and check if the solution becomes clear and transparent.
- (d) Now put this solution in a tub containing cold water, sufficient for the fabric to move easily in the dye bath.
- (e) The fabric should be first dipped in cold water rinsed and then put in the solution of base. The cloth should be stirred continuously for 1/2 hour so that the cloth is dyed evenly.
- (f) Now the second dye bath is prepared by mixing colour salt. Colour salt solution is also prepared by mixing the colour salt in a small cup with a small quantity of water and then putting it into another tub containing water. Add a quantity of

common salt equal to the quantity of the colour salt in the salt solution.

(g) Take out the fabric from the base solution and put it in the salt solution for 1 hour. Stir continuously for fine results.

Note: A list of naphthol dyes is given at the end of the chapter.

Dewaxing

Finally dewaxing is done after which the fabric is ready for use. For dewaxing, water is boiled in a large vessel or container to which 1 tsp detergent powder is added. The cloth is put into it and stirred continuously. Water is changed twice or thrice as required to remove the wax completely. Another way of removing the wax is to iron the cloth by putting it between 2-3 layers of newspaper. But it is always better to finally wash it in boiling soapy water. Example of a batik wall hanging is shown in Fig. 5.3.

Tie and Dye

Origin and History

Preference to tie and dye dates back to AD 600. At that time it was popular in eastern Asia namely India, Japan, Indonesia and China. Mention of tie and dye fabric is found in Banbhatt's writings of AD 700. It was also practised in South America and Africa. Tie and dye emerged in Europe much later.

Tie and dye is an ancient method of pattern making on cloth. Its Indian is 'bandhana' which in Sanskrit means

'to tie'. It is internationally known by its Malay-Indonesian name 'plang'. Tie and dye is a native craft practised practically all over the world specially in India and Africa. It also is a resist technique like Batik where certain parts of the cloth are tied with threads or are knotted so that these parts remain undyed. Indian 'tie and dye' from Rajasthan, Jamnagar and Gujarat are famous for their fine and colourful tie and dye effects so much so that they have specific names like 'leheria' and 'bandhani' which are famous all over the world. In tie and dye various designs are made by tying, pleating and folding different shapes such as circles, squares, etc. to get exotic results. In traditional 'bandhani' design the cloth is tied in small tiny dots by using the small pointed nail of the little finger or a spiked metal ring. They are used to raise the points and tie the material several times with a continuous uncut thread which is then used to tie the second dot. In this process the outline of the design comes out in small dots. Sometimes the tip of the raised points is tied completely so that it retains the original colour and instead of a dot, a coloured circle is formed.

Technique

As the name suggests, tie and dye is a simple process of tying and dyeing fabrics to produce exotic and fabulous results. Anybody with a little creative imagination and having an aesthetic sense of colours can master the art of tie and dye.

Selection of Fabric

Selecting the right fabric for tie and



Fig. 5.9 Wall hanging of Bark

dye is very important as the same folds and tying produce different design effects on thick and fine fabrics. Generally the fabric for tie and dye is folded twice or thrice reducing the size of the fabric so that the tied design is repeated automatically on the full length. But one should be careful with the thicker material since the dye penetration is not proper and the results are dull and faded. So the design should be carried out on a single open piece. Fine fabrics like mulmul, chiffon, and thin silk are generally used for sarees, dupatta, dress materials, scarves, etc. having intricate designs.

With the growth of synthetic dyes we are able to get tie and dye on synthetic fabrics also.

Preparation Fabric and Selection of design

To prepare the fabric, it is first washed and rinsed to remove all the starches and impurities so that the final effect of dyeing is even. The fabric is ironed and then folded twice or thrice according to the required design effect, e.g. for circular pattern the fabric is picked up from the centre and pleated like an umbrella and tied at regular intervals. This will result in circles. Care should be taken that the thread is tightly wound around the area. Binding is done several times and the small spaces left in between the threads create beautiful and fine designs when dyed. By the simple method of knotting we can get circles, stripes and other designs. This cloth should be taken for this purpose. For definite and fine shapes a little tacking and stitching also have to be done. Selection of particular fold de-

termines the general design.

Some common folds are illustrated in Fig 5.4.

Tying Agents and General Methods of Tying

For tying, different types of threads are used. For achieving wider stripes coarse and thick thread is used. This is generally suitable for larger and thicker folds of thick fabric. Now-a-days sometimes polythene strings are wrapped and then they are tied with the threads to resist the dye for larger areas in the design. Rubber bands and clothes pins are also used to grip the folded fabric resulting in unusual designs. It should be ensured that the grip is good otherwise the design will be spoiled. One can always combine different techniques to get new design variation according to one's own design ideas and imagination. Plastic bags are used for creating designs using the method of partial dyeing. In partial dyeing larger areas are completely wrapped in plastic bags which are left undyed. By using this method creatively, contrast colour setting is possible which is difficult to get in the normal dyeing processes. After dyeing the cloth the isolated areas in the cloth are opened, tied and again dipped in contrast dye bath.

Dyeing of the Fabric

Direct dyes are generally used for tie and dye. They are also known as salt colours as common salt is also added while carrying out the dyeing process. These dyes usually come in powder form. They are usually mixed with a little quantity of water to form a paste

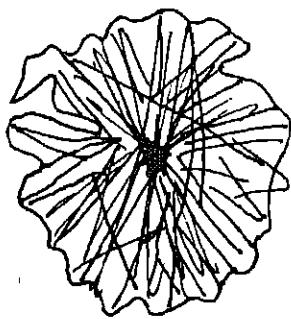


Fig. 5.4 a. To achieve marble effect, crumple the fabric forming a ball and tie it all around by strings

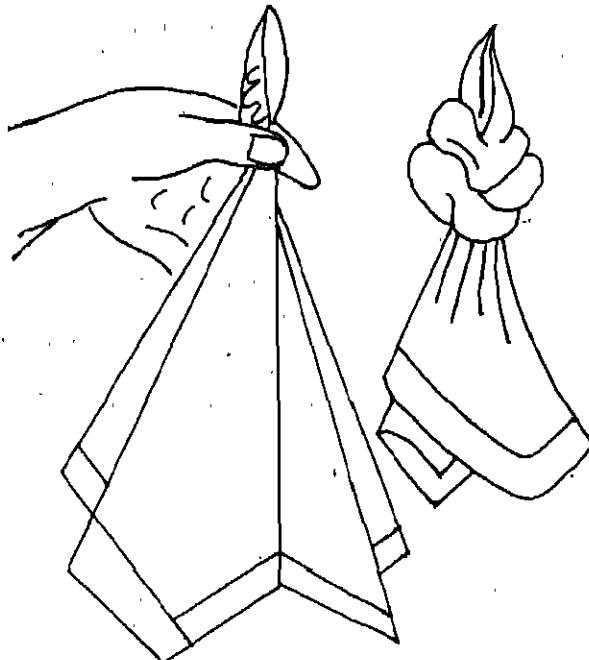
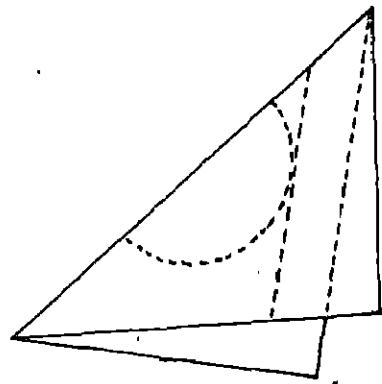


Fig. 5.4 b. Circle is obtained by picking up the fabric at the centre of the circle and then tying a knot. The fabric itself can be used for tying the knot to give a special effect.

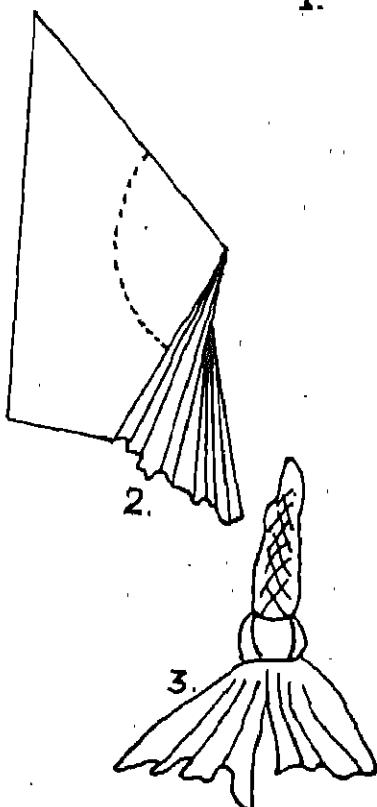


Fig. 5.4 c. Another method of obtaining a circle is shown here. The fabric is folded in three stages as shown and then knotted.

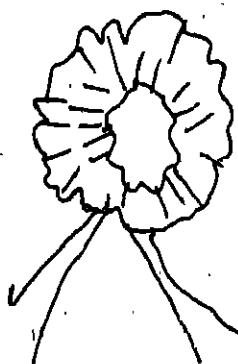


Fig. 5.4 d. Cord method—Fabric is rolled around a cord to form a sort of cylinder. The cylinder is then pushed inwards from both the ends to form a lot of folds. The ends of the cord are then tied together to form a ring. After dyeing the effect achieved is shown in Fig. 5.6.

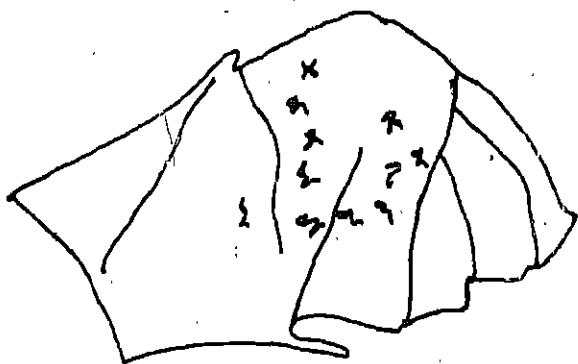


Fig. 5.4e. For intricate small dot effect grains of rice or dal are wrapped in the cloth and tied by thin strings. After dyeing the effect achieved is shown in Fig. 5.7.

and then this paste is dissolved in the required quantity of water for dyeing. The other method is to prepare a small muslin bag and put the dye powder in it and after the bag is closed it is directly put into boiling water which is ready for dyeing. The muslin bag is squeezed by a wooden spoon in the container so that the dye bath is free from getting any lumps.

Any enamel or copper vessel of a suitable size (according to the object being dyed) is taken in which enough water is put so that the material is immersed properly and can be continuously stirred during dyeing. When the water is at its boiling point the dye paste or the muslin base is added to it. Then tied and presoaked fabric is put into it and stirred continuously for 15 minutes till the dye bath becomes

clear. Generally for normal colour strength, 5 gms of colour is required but the depth of colour actually depends on the percentage of the dye in relation to the weight of the fabric. The amount of water does not control the shade of the colour but sufficient water should be there for movement so that there are no patches on the fabric to absorb the dye particles properly and evenly. The fabric is then taken out of the dye bath and rinsed thoroughly. Fixer is also used which ensures proper fixing of colours. Now the fabric is again tied according to the design if further dyeing is needed.

Before opening, the fabric is allowed to dry properly. The tied thread is then cut off with a pair of scissors. After the removal of threads the cloth is rinsed, ironed and is then ready for use.

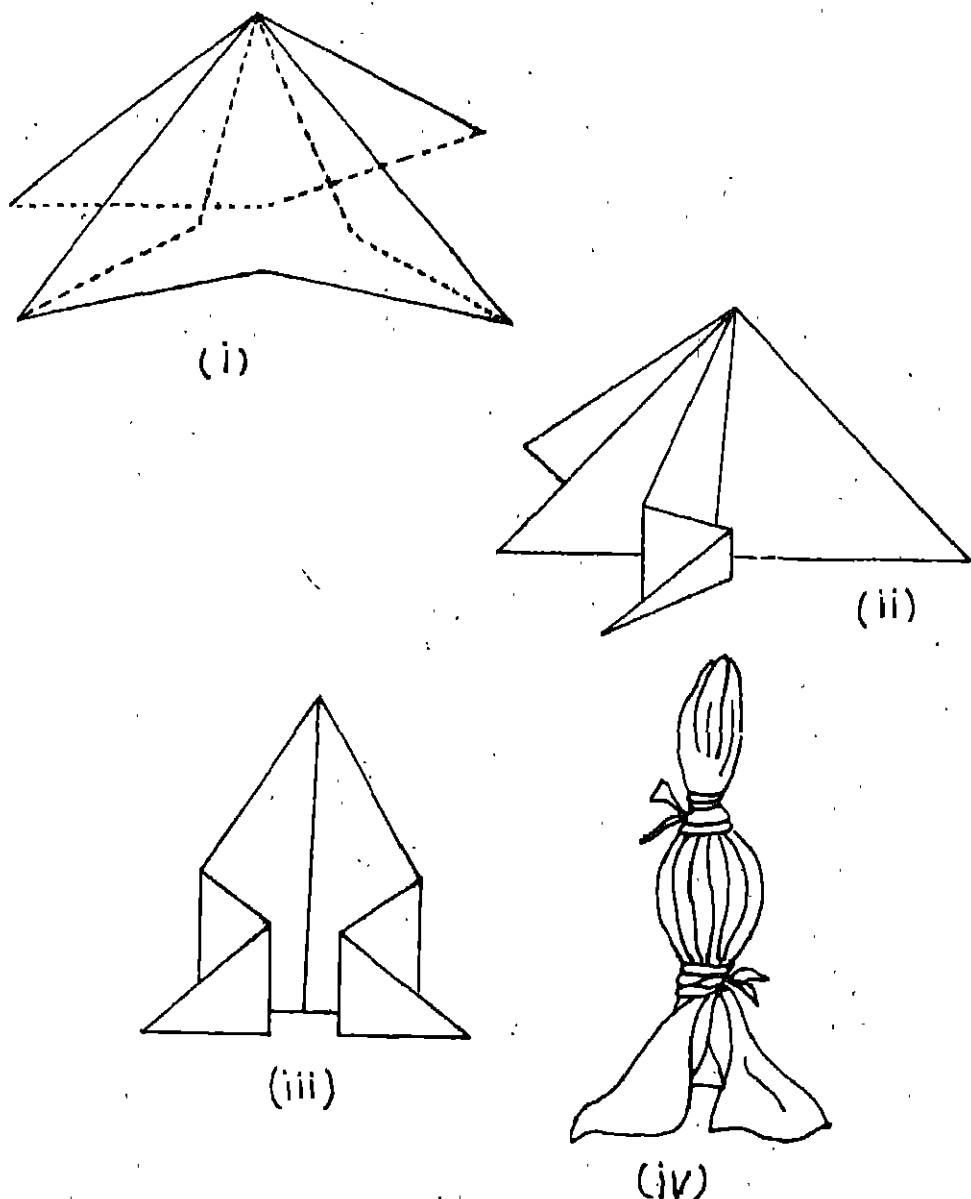


Fig. 5.4 f. For uniform circles, fold the fabric into star shape as in stage (i). Fold each point of the star into pleats as in stage (ii) and (iii). Tie the folded fabric at the point shown in stage (iv). Effect achieved is shown in Fig 5.5.

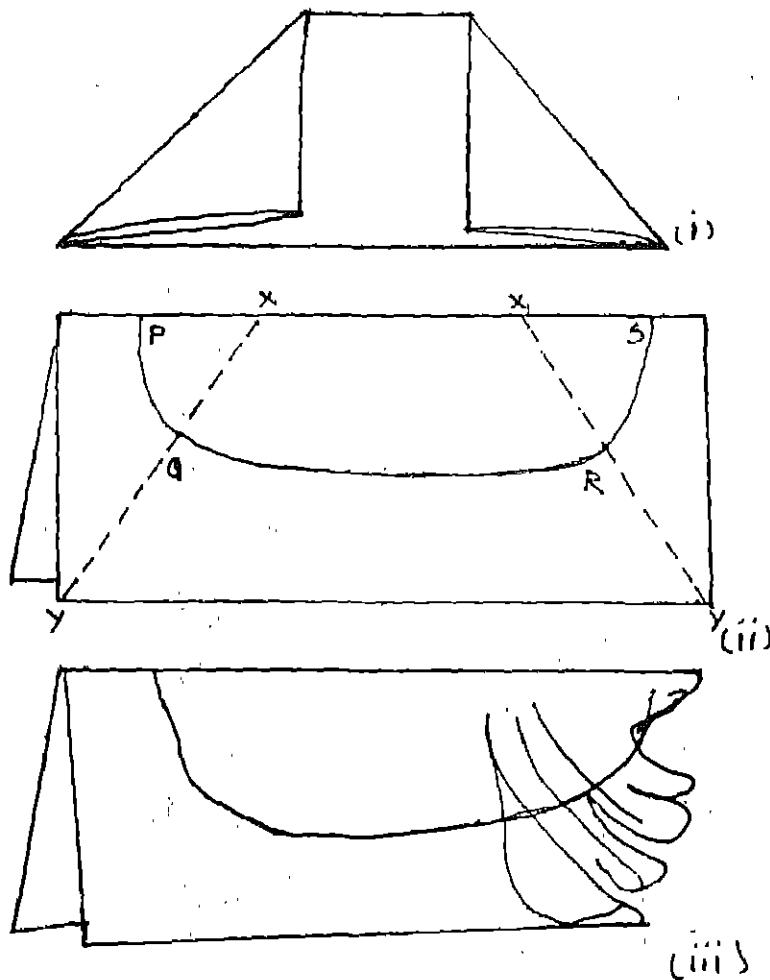


Fig 5.4 g. To get an oval effect, take a piece of cloth, fold it horizontally and then turn in the corners as shown in stage (i). Unfold the corners and mark the creased portion XY as shown in stage (ii). Using X as centre draw greater circles. Now join the points QR by a straight line. Start gathering the material from P along the curve PQ RS and end at S as shown in stage (iii). Tie the gathered cloth at 'a' and 'b' as shown in stage (iv). Dip in the first dye bath and tie it again at 'c' and then dye in a different colour. The effect will be a three coloured design.

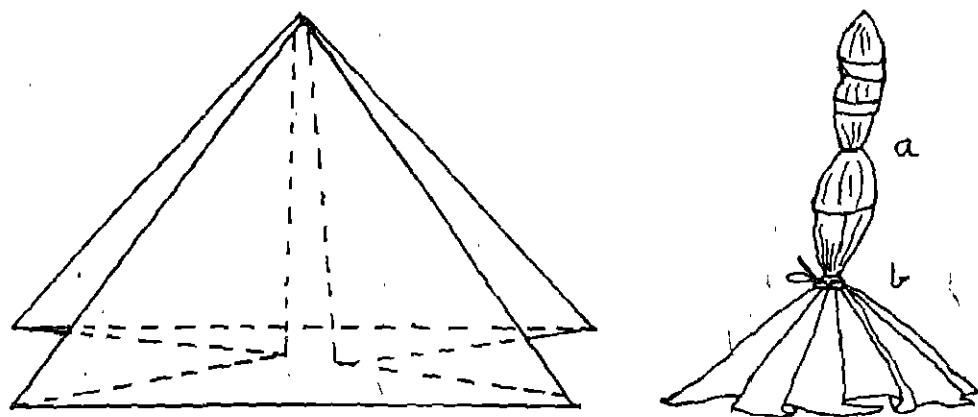


Fig. 5.4 h. To get a square shape, first fold a square piece of cloth as shown in stage (i). Gather the folds and tie at 'a' as shown in stage (ii) and dye. Next tie at another place some distance away and dye in a different colour. The effect achieved is shown in Fig. 5.8.

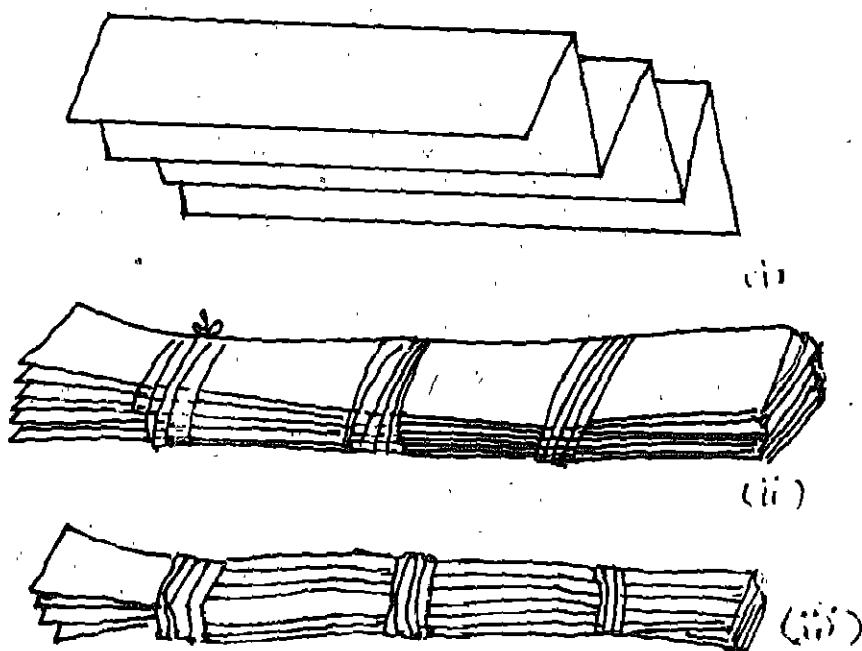


Fig 5.4 i. Pleated and tied effect is obtained by folding and tying as shown in Fig. 5.9 and 5.10.

Designs and Method of Folding

(a) **Circles:** For uniform circles fold the fabric into star shape, as in 5.4f(i). Fold each point of the star into pleats as in (ii) and (iii). Tie the folded fabric at the point shown in stage (iv). The effect is shown in Fig. 5.5.

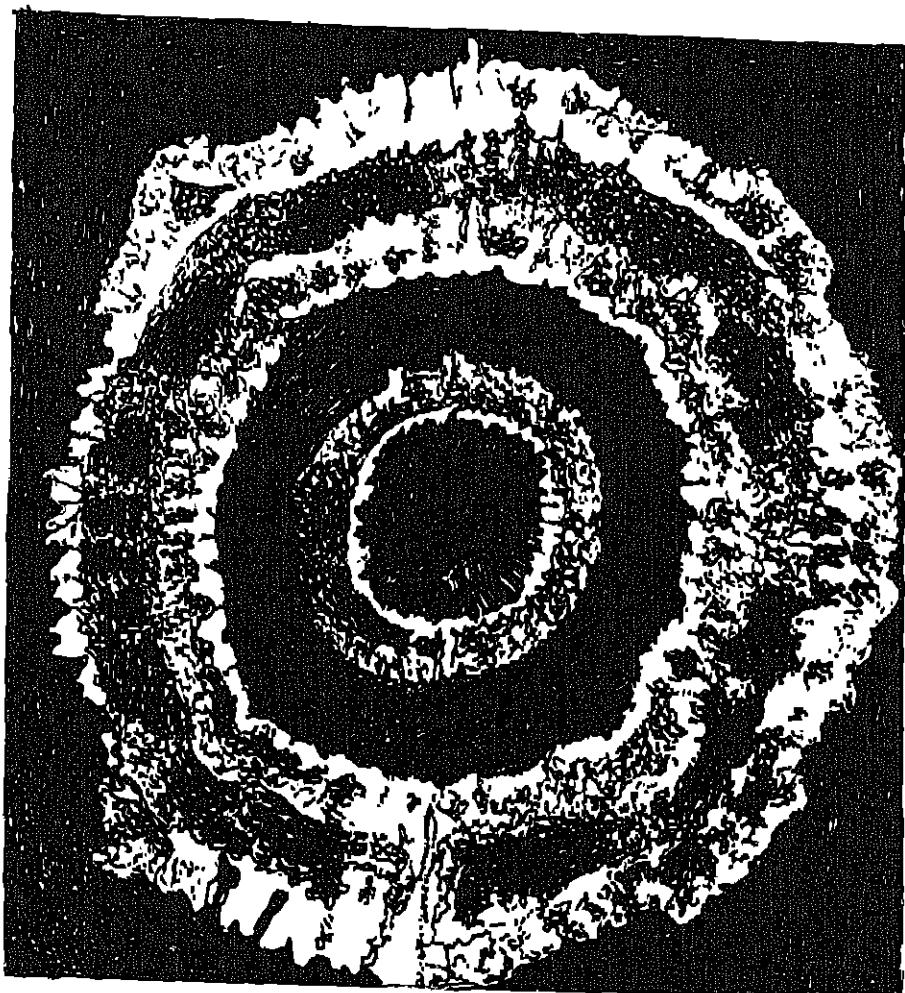


Fig. 5.5 Circle

(b) **Cord Method:** Fabric is rolled around a cord to form a sort of cylinder. The cylinder is then pushed inwards from both the ends to form a lot of folds. The ends of the cord are then tied together to form a ring (see Fig. 5.4 d). After dyeing the effect achieved is shown in Fig. 5.6.

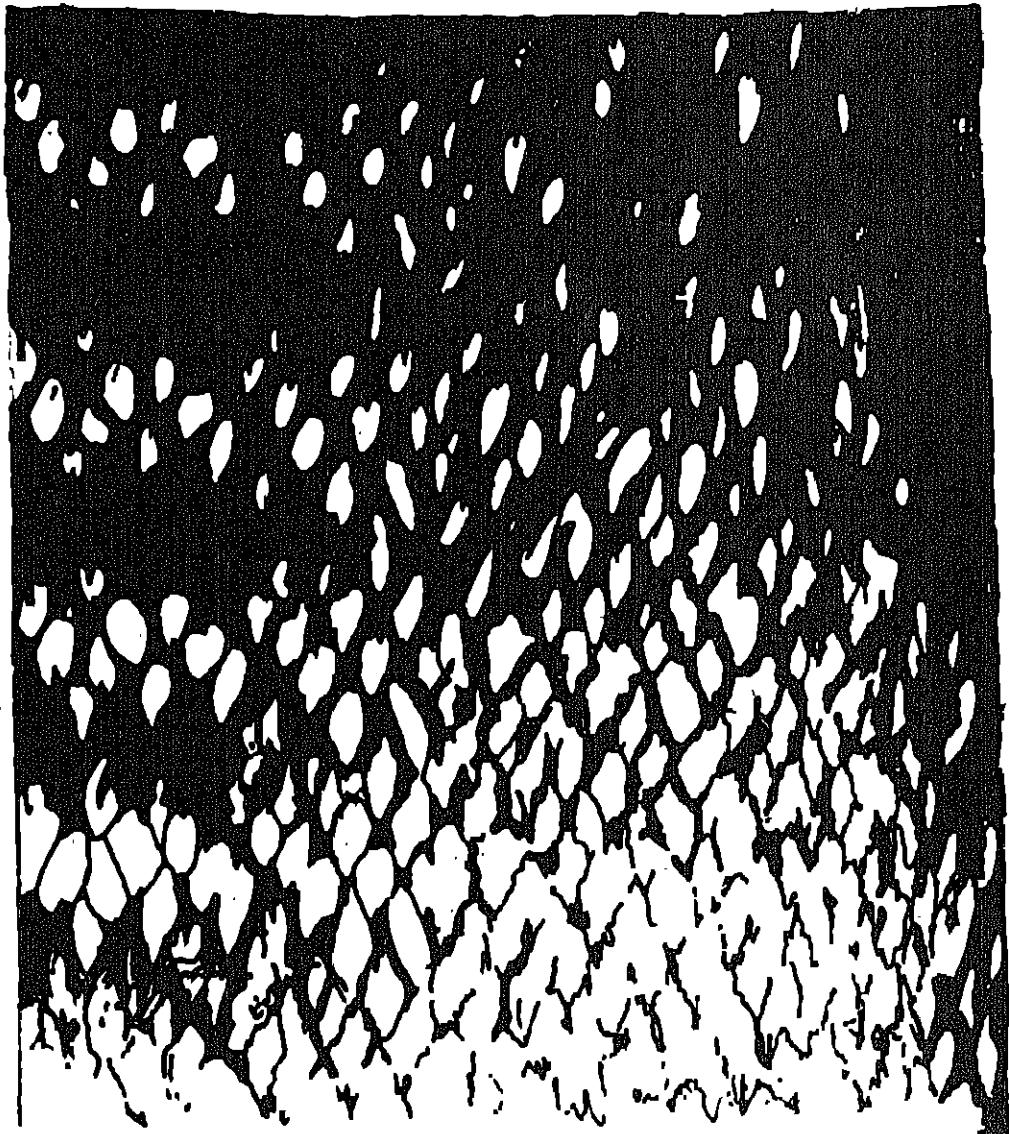


Fig. 5.6 Effect using cord method

(c) **Bandhani:** For intricate small dot effect grains of rice or 'dal' are wrapped in the cloth and tied by this strings as shown in Fig. 5.4 c. The effect is shown in Fig. 5.7.

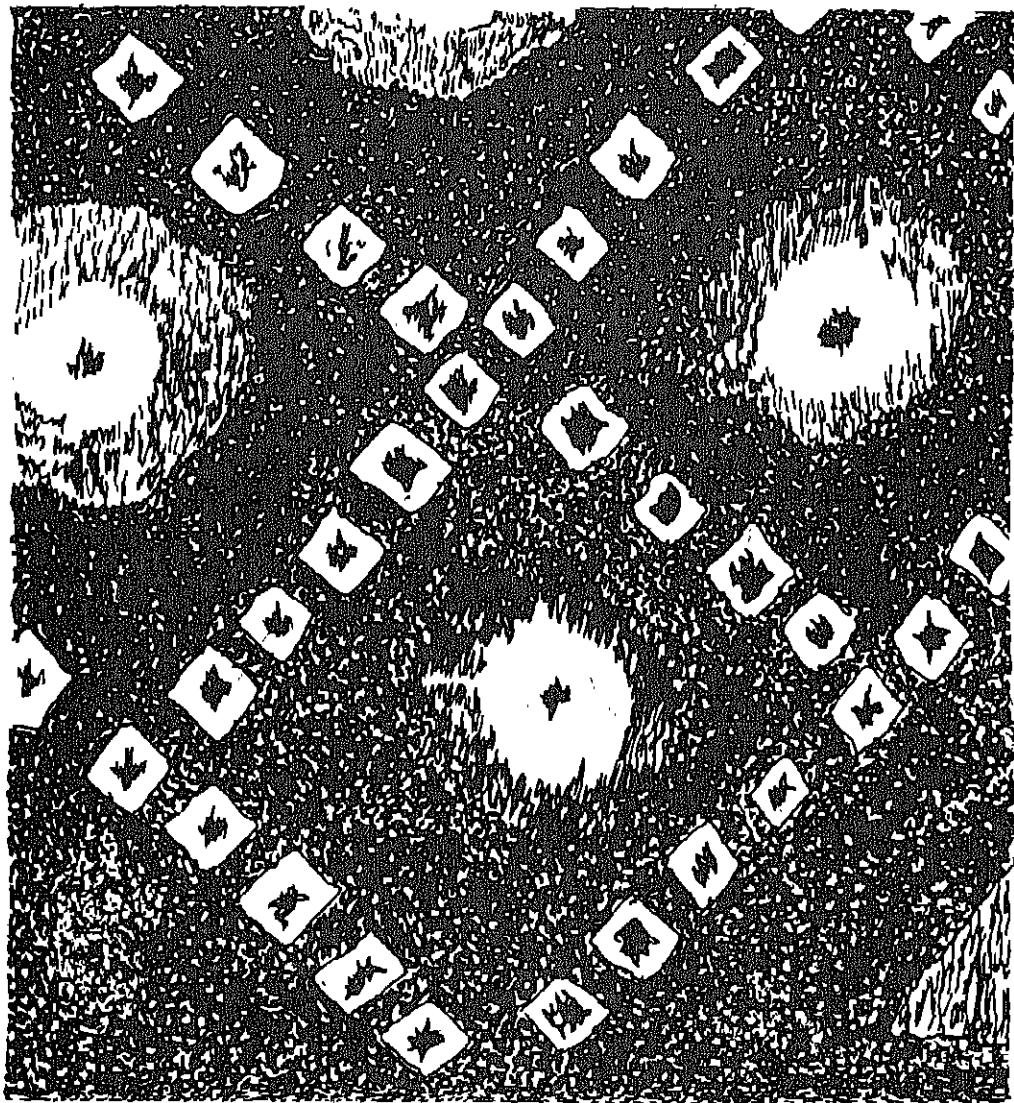


Fig. 5.7 The small squares are achieved by tying grains

(d) **Oval:** To get an oval effect, take a piece of cloth, fold it horizontally and then turn in the corners as in Fig 5.4 g stage (i).

(i) Unfold the corners and mark the creased portion XY. Using X as centre draw quarter circles (ii), and join the points Q-R by a straight line. Now start gathering the material from P along the curve PQRS and end at S. (iii) Tie the gathered cloth at "a" (iv) and "b" and dip in the first dye bath. Again bind it at 'c' and then dye in a different colour.

(e) **Square:** To get a square shape, first fold a square piece of cloth as shown in Fig. 5.4 h. (i). Gather the folds and tie at 'a' and dye. Next tie at another place some distance away and dye in a different colour (See Fig. 5.8).

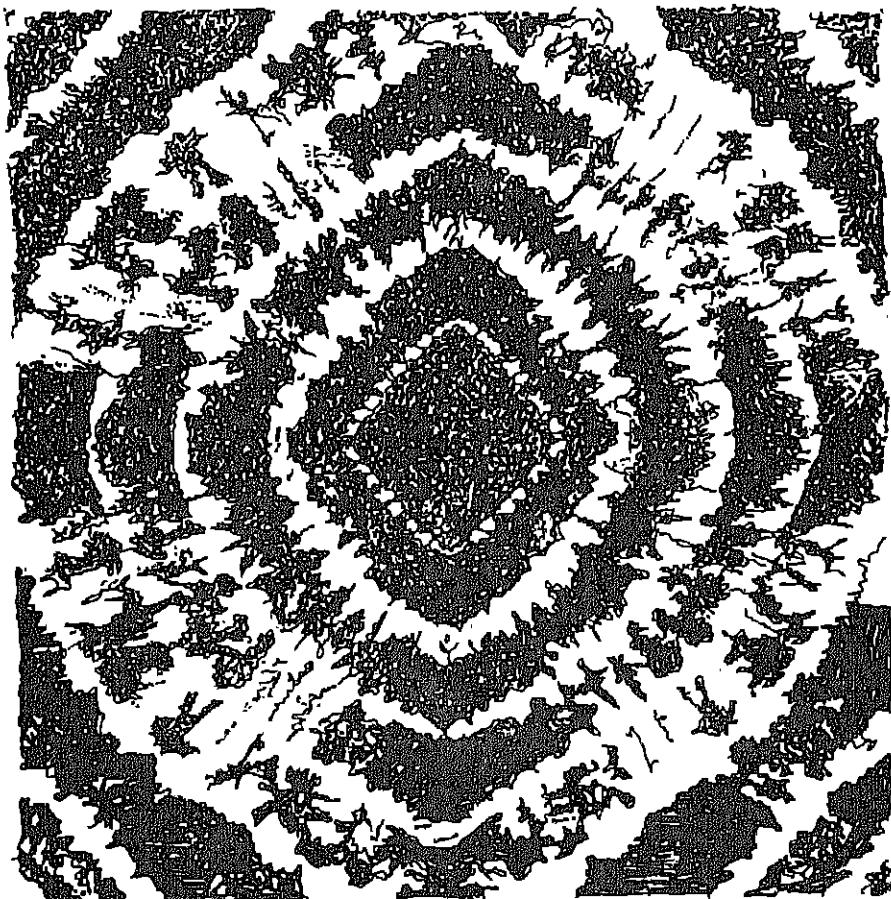


Fig. 5.8 Square Shape

(f) **Stripes:** Pleated and tied effect is obtained by folding and tying as shown in Fig. 5.9 and Fig. 5.5 which show stripes obtained by this form of folding.

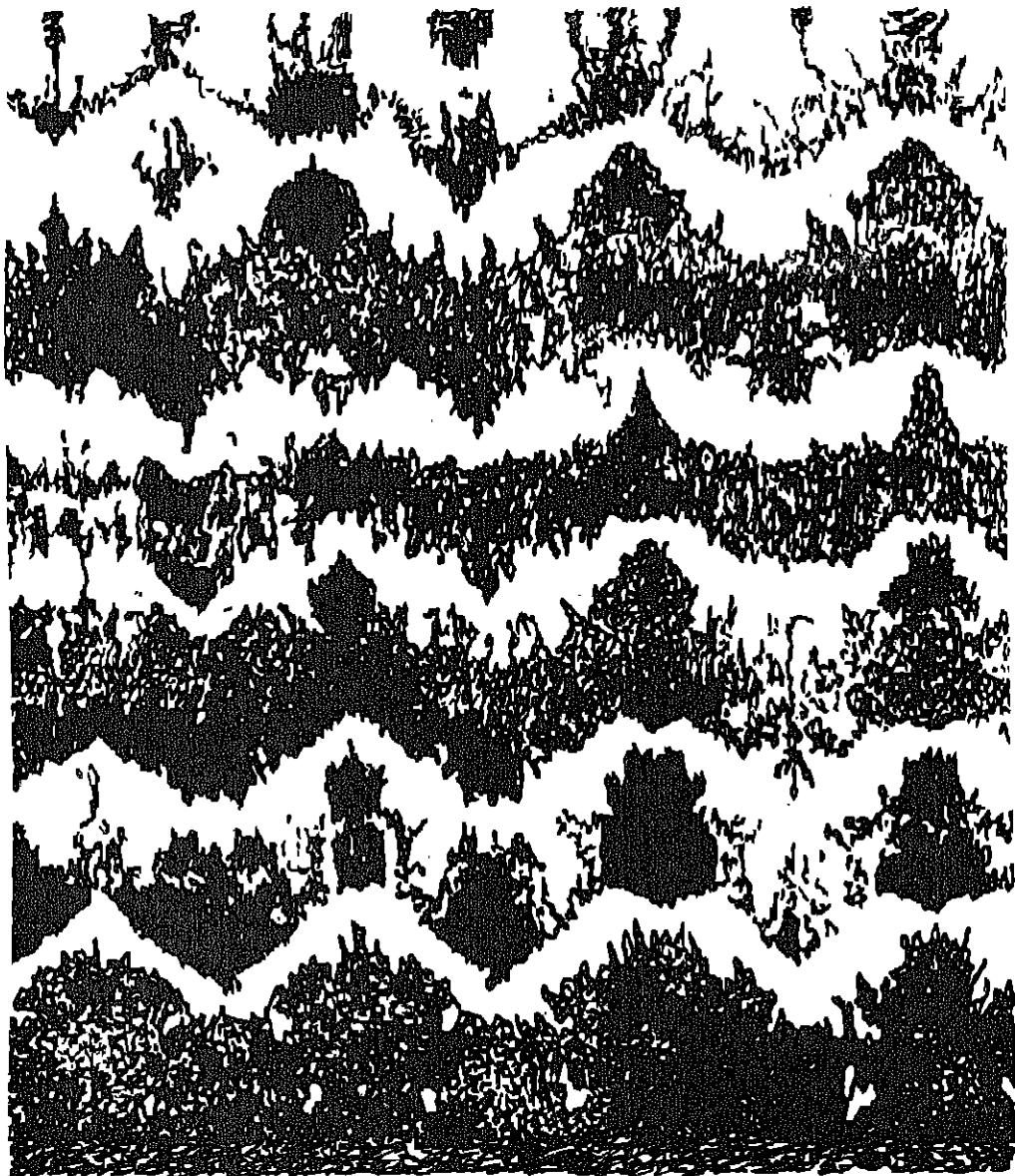


Fig. 5.9 Horizontal Stripes obtained by pleating and tying

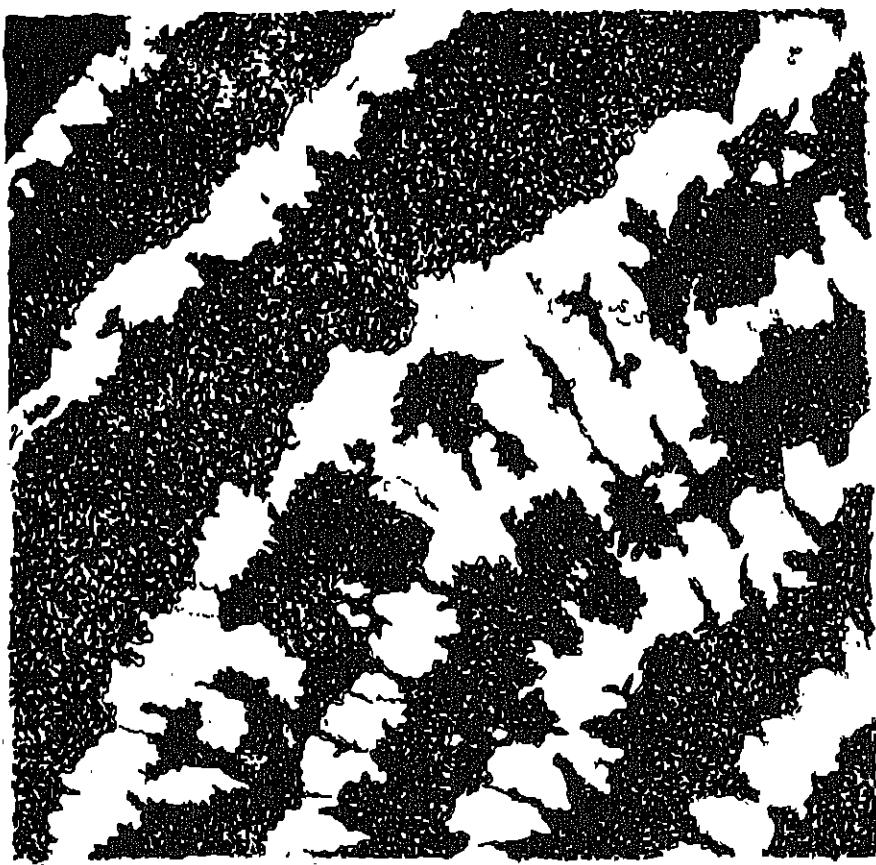


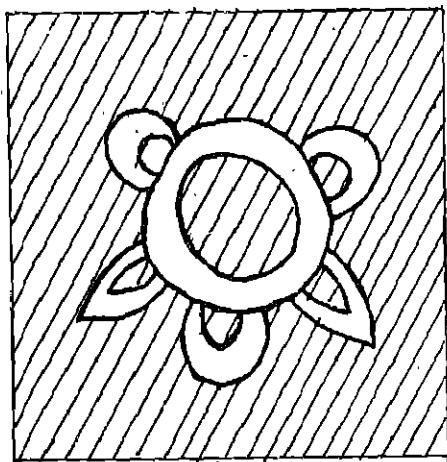
Fig. 5.10 Diagonal Stripes (Traditionally known as Lchariya) obtained by pleating or rolling diagonally and then tying.

Stencil Printing

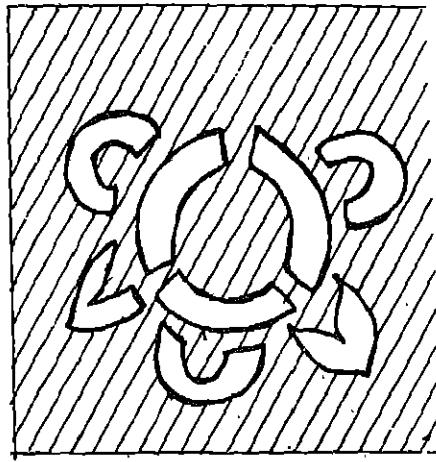
Stencil printing is an ancient art brought to excellence by the Japanese. Probably at the end of the 8th century stencil plate was introduced in Japan to pattern fabric. The technique of stencil printing was used from very early times as a means of repeating patterns on wall, furniture and floors in many places such as ancient Rome, medi-

eval Europe, etc.

In France and other places metal stencils were made around the late 19th and early 20th centuries. Stencil printing finally developed to the screen printing method which is an industrial process of patterning textiles. Stencil printing is now-a-days practised as a craft. Young children and adults can experiment with the technique to



a.



b.

Fig. 5.11 Stencil Designs (a) shows correct stencil cutting with proper 'ties' while (b) is incorrect.

express their individuality while decorating their personal fabrics and furnishings.

Stencils are generally prepared with wax coated paper or similar water resistant sheet, etc. For the beginners, fairly large 'ties' (joints) are kept in the design so that the design is not distorted (Fig 5.11).

Simple designs with large 'ties' are easy to cut and handle. The stencils are placed on the cloth and generally the colour is gently pressed through with a small round-brush. Care should be taken that 'ties' are not broken. There are other methods of putting colours through stencils, such as spraying, dry brush effect, etc.

Technique

Preparation of Stencil Sheets

For making stencils, strong, transparent, water resistant paper, which could

be cut easily, is taken. Thin plastic sheets are also used for this purpose. For craft purposes waxed paper can be prepared easily at home. A sheet of paper on which a design has been made or traced is taken. A small quantity of crushed wax is sprinkled on this sheet and on top of it a few newspapers are kept. Then it is ironed to melt the wax which spreads evenly on the drawing sheet making it water resistant and translucent. With a sharp stencil knife the design is then cut out of the waxed paper. It is always better to cut the stencil on a piece of glass.

Method of Printing

When the stencil is ready it is placed on the fabric and with a masking tape the position of the stencil is secured. The paint is taken out in a palette and the stencil brush is dipped into it. It is better to dab the tip of the brush on a rough paper first and then it is placed

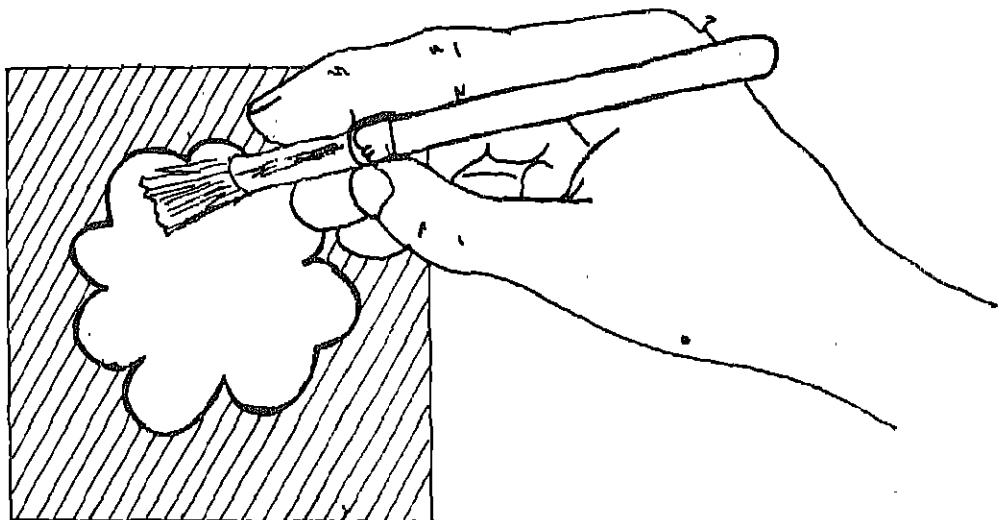


Fig. 5.12 Stencil Printing

on the fabric through the stencil (Fig. 5.12). This is very important because otherwise the excess colour in the brush will run underneath the stencil thus spoiling the edge of the design. Instead of the brush a small piece of sponge could be used but excess colour should always be removed. The stencil is removed and is cleaned by a dry cloth and placed on the next place wherever required. Stencils could be used easily to repeat patterns for fabric painting. Combining of stencilling with other techniques like batik, spray painting, fabric painting, etc. gives new and exciting ideas.

When combined with batik, stencils are placed on the fabric and the design is outlined with dry brush strokes using wax (excess wax should be removed on a rough paper) or wax is 'thrown' (splashed) on the fabric

through the stencils. After that it is dyed in the required colour producing exquisite results. Fig. 5.13 shows a design obtained by this method. The dark triangles are achieved by using a mask of this shape.

Painting on Fabric

Fabric painting can be defined as colourful self expression of a designer. The designer's imagination is not limited within the limitations of block, screen, stencil or any other conventional method of textile printing. With fabric paints both children and adults having a flair for designing are able to express their ideas on fabric with the help of a brush. Not only fabrics but garments are also decorated easily with fabric paints which is not possible in any other method of textile printing. 'Kalamkari' is a traditional method of

hand painting. 'Kalamkaris' are exclusively hand painted fabrics used as tapestries and temple hangings. The word 'Kalamkari' is derived from 'kalam' meaning 'pen' and 'kari' meaning 'work'.

Nowadays, there are quite a few readymade fabric colours available in different forms. They come in paste form in bottles to be used directly with a brush without any need to mix any

medium or water. Water is mixed at the discretion of the person and the kind of design effect required. For example, if blended colours or natural water shading has to be shown one is supposed to use more water. These colours have been introduced in a nozzle form so that the effect is embossed like embroidery. In the foreign market fabric paints are available in

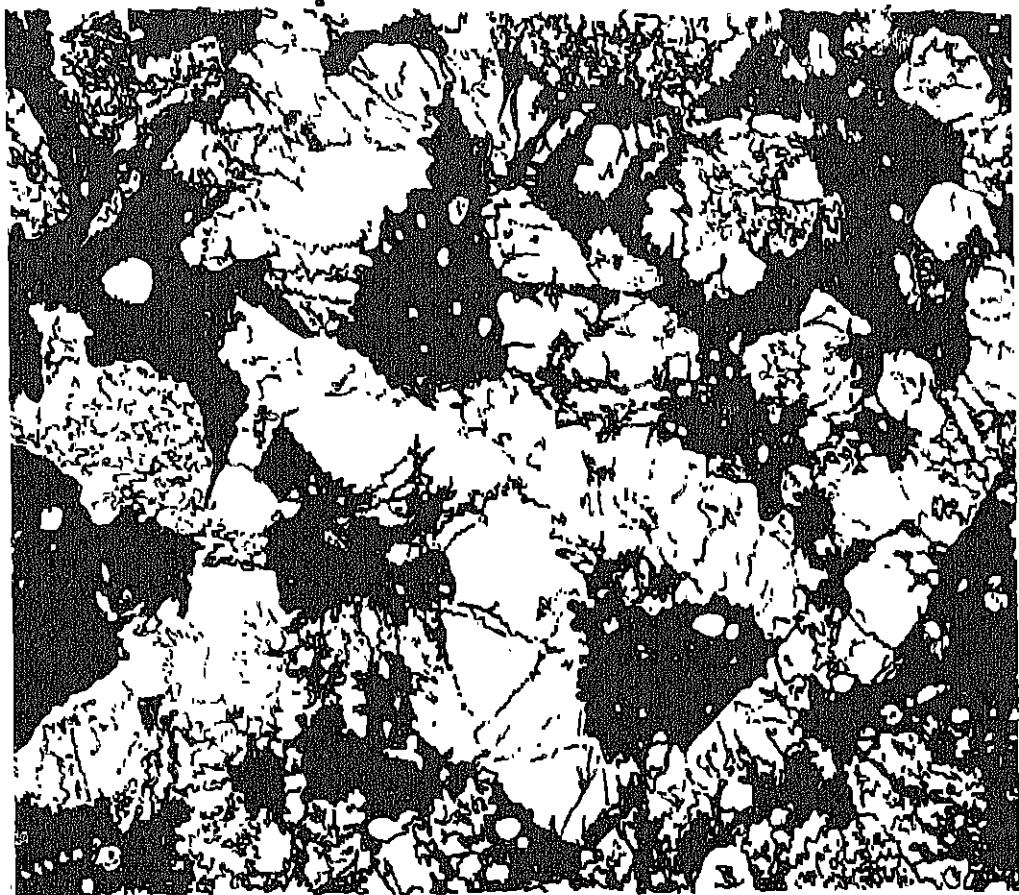


Fig. 5.13 A combination of Batik and Stencil Methods

felt pen form also, due to which the medium can be easily handled even by small children.

Now we also have a new range of fabric paints that 'glitters' which add to the beauty of designs, 'pearl colours' which give a soft shiny texture and fluorescent colours which give brightness to the design. Apart from silver and gold, bronze and copper shades are also available. Fabric paints are generally suitable for all kinds of fabrics — synthetic and natural.

Pigment dyes are available which are easy to mix. They give a softer finish to the fabric as compared to fabric colours.

Technique

After the selection of fabric it is washed to remove the starches so that the fabric paints adhere properly to the fabric and do not get removed on washing. If a definite design is taken it has to be traced on the fabric and then the material is stretched on an embroidery frame. Now the design is painted in the style and colour combination decided.

Fabric paints are generally fast drying colours, so care should be taken to cover the bottles while painting.

After completing the design the fabric is dried and ironed from back side. If dye colours are used for painting the fabric is kept under sunlight for 5-6 days to give it a heat treatment so that the colours are fixed properly on the fabric.

Flock Painting

The technique of sticking minute pieces of fibre, called 'flock' to form design on

fabrics has been used to a limited extent for the past 600 years but it has become more widely used recently because better adhesives are available as well as there are better methods to apply the adhesives.

Flock is prepared by cutting or grinding of synthetic fibres, cotton or wool by appropriate machines. Normal printing methods are used instead of a dye. Flock is then applied to this adhesive in several ways. The most effective way is to use an electrostatic field due to which fibres stick to the base cloth. In this way an even vertical pile is formed giving the effect of velvet. Flock can also be applied by mechanically shaking, dusting or sprinkling over the printed adhesive. But in this method the print does not adhere firmly and is a little uneven. The third method is to use special flock spray guns. This is a comparatively simple method but here the flock lies in a disordered state and does not produce a velvet-like effect.

Transfer Printing

Transfer printing can be defined as the printing of textile fabrics by contact through heat and pressure. It is a relatively new textile printing technique. It is a hot melt process where the design sticks to the surface of the fabric like a plastic coating. It is basically suitable for use on synthetic fibres.

For around a century transfer prints were produced as designs to be embroidered using a pigment that could adhere to the cloth. The concept of transfer printing originated in about 1924 when the disperse dyes were first commercially introduced. In France, in 1958, Noel De Please first introduced

the process of printing paper with dyes capable of sublimation. Sublimation is the name given to the process where on being heated, a solid compound turns into a gaseous form but reverts to the solid state on contact with a cool surface.

Thus paper is printed with disperse dyes which vaporize on heating in a traditional method, i.e. flexographic, rotary, etc. So we see that paper printing apart from being based on sublimation also involves a technique called solid state dyeing. When the printed paper dries, it is placed in contact with a fabric. This fabric contains manmade fibres. Then it is heated in a press for about 20 seconds at a temperature of around 205° C. At this high temperature, the dyes vaporize and the vapour diffuses into the fibres and dissolves into them.

The paper and the fabric are then separated after pressing. Now we will observe that the dye on the paper is dull and on the fabric is bright and strong. This is so because when the dyes are dissolved in the fabric they show their true colours. Here we can note an advantage of transfer printing in regard to the environment that it is totally pollution-free, since it uses no water and yields no poisonous by-product.

There are two types of transfer colours available in foreign market—transfer inks and transfer crayons. Transfer inks are both water and spirit based. Water based are dispersal range. Spirit based are thinned by white spirit or specially formulated thinners. For experimental and craft level work at schools and colleges, transfer inks and

crayons have great potential in creating new ideas. Transfer inks have more flexibility as they can be applied by brush, roller, blocks and screens. Water based inks can be used in combination with crayons and some very exciting resist effects can be achieved. Transfer crayons are very handy as they can be used by children also. It is a dry method of transfer making. Transfer crayons were originally developed by Binnie and Smith (Europe) Ltd. They were introduced in eight different colours and looked like conventional wax crayons. But the similarity however ended there because the transfer crayons are made by using most recent dye technology. The manufacturers have succeeded in the making of transfer colours in a wax binder and creating a range of colours that could easily be used on paper and then passed on to the synthetic fabrics by ironing with an ordinary domestic iron. Although only eight colours are available but by experimenting and mixing different colours and their tones any number of colour effects can be achieved. Another method is to transfer differently coloured papers one after the other on to the fabric. This technique gives a greater intensity of colour from the subsequent mixtures and also gives a textured rubbing effects. After preparing the transfer design on paper while starting to transfer it on the fabric, care should be taken that the iron is at the correct temperature. A little bit of experimental work with varying temperatures will be of help while printing. Results of varying temperature should be kept in a chart form for further use.

Spray Printing

This is the method of applying dye on to the fabric in the form of spray. Controlling of spray will result in different textures on the fabric. The fabric can be sprayed directly giving an all-over dyeing effect or through a stencil or a mask to paint only the design. Using a mask will leave the designated area in the original colour while dyeing the uncovered areas.

Methods of spraying are many and varied from the simple toothbrush to the sophisticated spray gun using an air compressor. Many spray devices are available at home like the pump for spraying insecticides or a mouth blower. Fig 5.14 shows a girl blowing through a mouth blower for spraying water on the customer's hair before cutting. Bottles with attachments that are used by barbers can also be used. Aero brushes and small electric spray guns are also now available in the market. But before using any of these devices remember that the sprayed colours can travel long distances, so cover all the nearby objects by newspapers or old rags. Expose only that area of the fabric that has to be coloured.

A toothbrush is the simplest device to be used. Dip the bristles in the dye paste which should not be very thin. Dip the brush near the cloth at an angle with the bristles pointing up.



Fig. 5.14 Use of mouth blower

Now scrape a knife over the bristles bringing it from the bottom upwards. The dye will be spattered over the fabric. You will have to practise several times on paper before applying this technique on the actual fabric. In fact all spraying devices are to be used with caution and after a lot of practice.

Recipe of Cold Dyes for Batik
NAPTHOL COLOURS
(To dye up to one metre of cloth)

1. Lemon Yellow		8. Bright Maroon	
A.T. Base	5 gms	C.T. Base	5 gms
Yellow G.C. Salt	10 gms	Red B. Salt	10 gms
Caustic Soda	1 level teaspoon	Soda	1 level Leaspoon
Turkey Red Oil	1 teaspoon		
2. Light Yellow		9. Maroon	
A.T. Base	5 gms	M.N. Base	5 gms
Scarlet R.C. Salt	10 gms	G.P. Salt	10 gms
Caustic Soda	1 level teaspoon	Caustic Soda	1 level teaspoon
Turkey Red Oil	1 teaspoon	Turkey Red oil	1 teaspoon
3. Dark Yellow		10. Blue (only on white ground)	
A.T. Base	5 gms	A.S. Base	5 gms
Red Salt B	10 gms	Blue B. Salt	10 gms
Caustic Soda	1 level teaspoon	Caustic Soda	1 level teaspoon
Turkey Red Oil	1 teaspoon	Red oil	1 teaspoon
4. Golden Yellow		11. Z. Black	
A.T. Base	5 gms	M.N. Base	7.5 gms
G.P Salt	10 gms	Blue Salt B	15 gms
Caustic Soda	1 level teaspoon	Black Salt	4 gms
Turkey Red Oil	1 teaspoon	Caustic Soda	1 level teaspoon
		Turkey Red oil	1 teaspoon
5. Orange		12. Mustard	
A.S. Base	5 gms	A.T. Base	5 gms
Orange G.C. Salt	10 gms	Blue B Salt	10 gms
Caustic Soda	1 level teaspoon	Caustic Soda	1 level teaspoon
Turkey Red Oil	1 teaspoon	Turkey Red oil	1 teaspoon
6. Tomato		13. Coffee Brown	
A.S. Base	5 gms	M.N+ A.T. ($2^{1/2}+2^{1/2}$)	5gms
Yellow G. C. Salt	10 gms	B. Salt	5 gms
Caustic Soda	1 level teaspoon	Red B. Salt	5 gms
Turkey Red oil	1 teaspoon	Caustic Soda	1 level teaspoon
		Turkey Red Oil	1 teaspoon
7. Red		14. Brown	
M.N. or A.S. base	5 gms	C.T. Base	5 gms
Scarlet R.C. Salt	10 gms	Black K. Salt	5 gms
Caustic Soda	1 level Leaspoon	Caustic Soda	1 level teaspoon
Turkey Red oil	1 Leaspoon	Turkey Red Oil	1 Leaspoon

15. Mauve

M.N. Base	5 gms
G.P. Salt	5 gms
B. Salt	2 ^{1/2} gms
Turkey Red oil	1 teaspoon

17. Wine shade

A.T. Base	5 gms
Black Salt	10 gms
Caustic soda	1 level teaspoon
Turkey Red oil	1 teaspoon

16. Hot Pink

M.N. Base	5 gms
Scarlet R.C. Salt	10 gms
G.P. Salt	5 gms
Caustic Soda	1 level teaspoon
Turkey Red oil	1 teaspoon

18. Violet

A.S. Base	5 gms
Violet B. Salt	10 gms
Caustic Soda	1 level teaspoon
Turkey Red oil	1 teaspoon

Recipe of Pigment for Stencil

Ready Binder 20%

Water	25 ml
Urea	5 gm or less
Aerasfix	5 gm
Pigment past according to shade.	3 to 5 gms

Method

Dilute urea in 25 ml water. Add the solution to the ready binder. Mix and strain. Now add the Aerasfix and then gradually add and mix the pigment to get the required shade. The consistency should be correct for sponging or dabbing by a brush. For spraying, thinner liquid is required, so add water as desired.

For colour fastness, heat treatment has to be given. Seventy-two hours after printing, iron the fabric on the opposite side to the one printed with a press iron at a temperature of about 140°C, till the fumes and smell of kerosene disappears. Then keep in strong sunlight for some days.

QUESTIONS

1. Name all the traditional and creative crafts and explain briefly their origin and history.
2. Explain the method of batik.
3. Illustrate and explain different types of folds of tie and dye and their effects.
4. Explain the technique of making tie and dye on different fabrics.
5. What is stencil printing? Illustrate and explain the method of preparing a stencil.
6. Write short notes on:
 - (a) Fabric Printing
 - (b) Flock Printing
 - (c) Transfer Printing
 - (d) Spray Printing